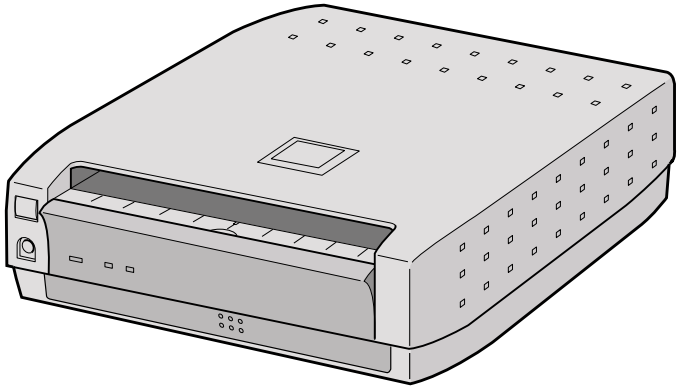
JVC

SERVICE MANUAL

DIGITAL SYSTEM PRINTER

GV-SP2U



SPECIFICATIONS

Power : AC 120 V ∿, 60 Hz
Power consumption : During printing : Approx. 74 W
Print format : Sublimation dye thermal transfer line printing
Print quality (Resolution) : BORDER (OFF) : 1220 (horiz.) x 1828 (vert.) dots
BORDER (ON) : 1152 (horiz.) x 1536 (vert.) dots
Resolution : 310 dpi
Print medium : Ink sheet (dedicated) : Cartridge
3-color consecutive printing (yellow, magenta, cyan)
Print sheet (dedicated) : Paper size 100 mm x 171 mm
Maximum print area
100 mm x 150 mm (BORDER: OFF)
94.4 mm x 125.9 mm (BORDER: ON)
Print speed : Standard Paper: 80 sec.
*Transmission and processing of video data is not included.
Super-Fine High Grade paper: 105 sec.
Connector : PRINT DATA Input connector
Operating temperature : +5°C — +35°C (+41°F — +95°F)
Operating humidity : 35% — 80%
Storage temperature : –20°C — +60°C (–4°F — +140°F)
Operating position : Level (horizontal) ±5°
Dimensions : 262 W x 79 H x 253.5 D mm
(10-3/8″ x 3-1/8″ x 10″)
Weight : Approx. 2.2 kg (4.9 lbs) (including paper tray)

Design and specifications subject to change without notice.

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Important Safety Precautions

Prior to shipment from the factory, JVC products are strictly inspected to conform with the recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

●Precautions during Servicing

1. Locations requiring special caution are denoted by labels and inscriptions on the cabinet, chassis and certain parts of the product. When performing service, be sure to read and comply with these and other cautionary notices appearing in the operation and service manuals.

2. Parts identified by the ⚠ symbol and shaded ( ) parts are critical for safety.
   Replace only with specified part numbers.
   Note: Parts in this category also include those specified to comply with X-ray emission standards for products using cathode ray tubes and those specified for compliance with various regulations regarding spurious radiation emission.

3. Fuse replacement caution notice.
   Caution for continued protection against fire hazard.
   Replace only with same type and rated fuse(s) as specified.

4. Use specified internal wiring. Note especially:
   1) Wires covered with PVC tubing
   2) Double insulated wires
   3) High voltage leads

5. Use specified insulating materials for hazardous live parts. Note especially:
   1) Insulation Tape 3) Spacers 5) Barrier
   2) PVC tubing 4) Insulation sheets for transistors

6. When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.) wrap ends of wires securely about the terminals before soldering.

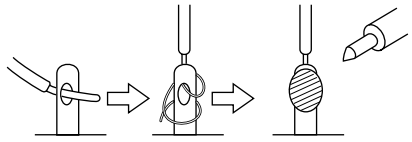


Fig.1

7. Observe that wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.)

8. Check that replaced wires do not contact sharp edged or pointed parts.

9. When a power cord has been replaced, check that 10-15 kg of force in any direction will not loosen it.

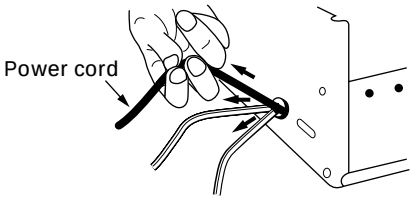


Fig.2

10. Also check areas surrounding repaired locations.

11. Products using cathode ray tubes (CRTs)
    In regard to such products, the cathode ray tubes themselves, the high voltage circuits, and related circuits are specified for compliance with recognized codes pertaining to X-ray emission. Consequently, when servicing these products, replace the cathode ray tubes and other parts with only the specified parts. Under no circumstances attempt to modify these circuits. Unauthorized modification can increase the high voltage value and cause X-ray emission from the cathode ray tube.

12. Crimp type wire connector
    In such cases as when replacing the power transformer in sets where the connections between the power cord and power transformer primary lead wires are performed using crimp type connectors, if replacing the connectors is unavoidable, in order to prevent safety hazards, perform carefully and precisely according to the following steps.

    1) **Connector part number :** E03830-001
    2) **Required tool :** Connector crimping tool of the proper type which will not damage insulated parts.
    3) **Replacement procedure**
       (1) Remove the old connector by cutting the wires at a point close to the connector.
       Important : Do not reuse a connector (discard it).

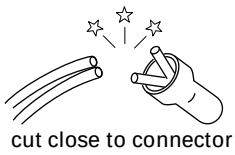


Fig.3

(2) Strip about 15 mm of the insulation from the ends of the wires. If the wires are stranded, twist the strands to avoid frayed conductors.

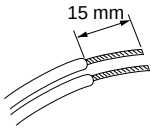


Fig.4

(3) Align the lengths of the wires to be connected. Insert the wires fully into the connector.

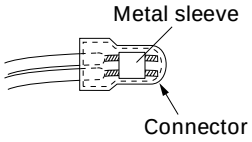


Fig.5

(4) As shown in Fig.6, use the crimping tool to crimp the metal sleeve at the center position. Be sure to crimp fully to the complete closure of the tool.

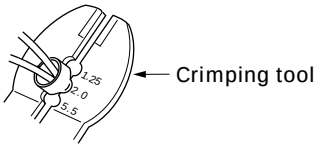


Fig.6

(5) Check the four points noted in Fig.7.

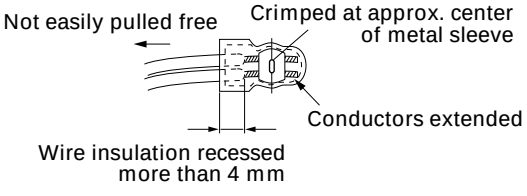

Not easily pulled free
Crimped at approx. center of metal sleeve
Conductors extended
Wire insulation recessed more than 4 mm

Fig.7

● Safety Check after Servicing

Examine the area surrounding the repaired location for damage or deterioration. Observe that screws, parts and wires have been returned to original positions, Afterwards, perform the following tests and confirm the specified values in order to verify compliance with safety standards.

1. Insulation resistance test

Confirm the specified insulation resistance or greater between power cord plug prongs and externally exposed parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See table 1 below.

2. Dielectric strength test

Confirm specified dielectric strength or greater between power cord plug prongs and exposed accessible parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See table 1 below.

3. Clearance distance

When replacing primary circuit components, confirm specified clearance distance (d), (d') between soldered terminals, and between terminals and surrounding metallic parts. See table 1 below.

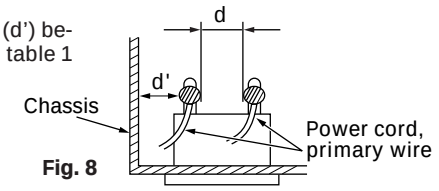


Fig. 8

4. Leakage current test

Confirm specified or lower leakage current between earth ground/power cord plug prongs and externally exposed accessible parts (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.).

Measuring Method : (Power ON)

Insert load Z between earth ground/power cord plug prongs and externally exposed accessible parts. Use an AC voltmeter to measure across both terminals of load Z. See figure 9 and following table 2.

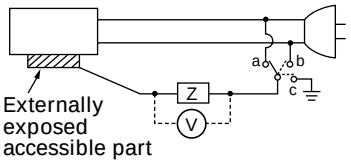


Fig. 9

5. Grounding (Class Ⅰ model only)

Confirm specified or lower grounding impedance between earth pin in AC inlet and externally exposed accessible parts (Video in, Video out, Audio in, Audio out or Fixing screw etc.).

Measuring Method:

Connect milli ohm meter between earth pin in AC inlet and exposed accessible parts. See figure 10 and grounding specifications.

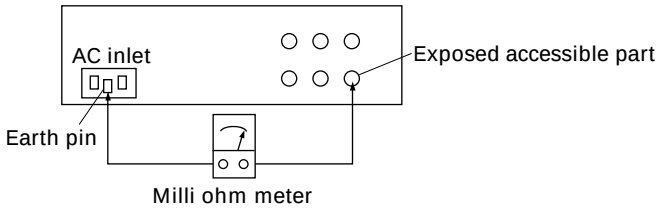


Fig. 10

Grounding Specifications

Region	Grounding Impedance (Z)
USA & Canada	Z ≦ 0.1 ohm
Europe & Australia	Z ≦ 0.5 ohm

AC Line Voltage	Region	Insulation Resistance (R)	Dielectric Strength	Clearance Distance (d), (d')
100 V	Japan	R ≧ 1 MΩ/500 V DC	AC 1 kV 1 minute	d, d' ≧ 3 mm
100 to 240 V			AC 1.5 kV 1 miute	d, d' ≧ 4 mm
110 to 130 V	USA & Canada	1 MΩ ≦ R ≦ 12 MΩ/500 V DC	AC 1 kV 1 minute	d, d' ≧ 3.2 mm
110 to 130 V 200 to 240 V	Europe & Australia	R ≧ 10 MΩ/500 V DC	AC 3 kV 1 minute (Class Ⅱ) AC 1.5 kV 1 minute (Class Ⅰ)	d ≧ 4 mm d' ≧ 8 mm (Power cord) d' ≧ 6 mm (Primary wire)

Table 1 Specifications for each region

AC Line Voltage	Region	Load Z	Leakage Current (i)	a, b, c
100 V	Japan	1 kΩ	i ≦ 1 mA rms	Exposed accessible parts
110 to 130 V	USA & Canada	0.15 μF, 1.5 kΩ	i ≦ 0.5 mA rms	Exposed accessible parts
110 to 130 V 220 to 240 V	Europe & Australia	2 kΩ	i ≦ 0.7 mA peak i ≦ 2 mA dc	Antenna earth terminals
		50 kΩ	i ≦ 0.7 mA peak i ≦ 2 mA dc	Other terminals

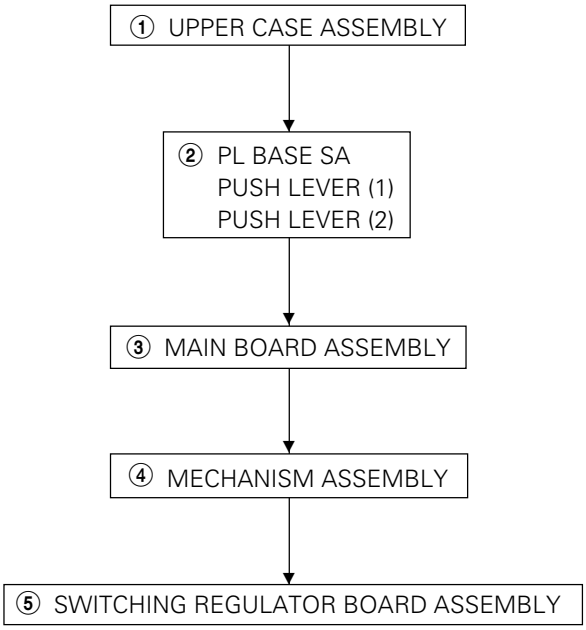
Table 2 Leakage current specifications for each region

Note: These tables are unofficial and for reference only. Be sure to confirm the precise values for your particular country and locality.

SECTION 1
DISASSEMBLY

1.1 DISASSEMBLY FLOW CHART

The following flowchart shows the disassembly procedure for the exterior parts and PC board assemblies.



1.2 DISASSEMBLING AND REASSEMBLING

STEP /LOC NO.	PART NAME	POINT	PART NUMBER
①	UPPER CASE ASSEMBLY	4(S1)	QYTDSF3008Z
②	PL BASE SA PUSH LEVER (1) PUSH LEVER (2)	W1 S2	PQM30017-47 QYTDST3006Z
③	MAIN BOARD ASSEMBLY	2(S3)	QYTDST3006Z
④	MECHANISM ASSEMBLY	3(S4)	QYTDSF3008Z
⑤	SWITCHING REGULATOR BOARD ASSEMBLY	4(S5)	QYTDSF3008Z

(1) (2) (3) (4)

(1) Shows the disassembing order.
When reassembling, perform in the reverse order. They also refer to the number indicated in the disassembling diagrams.
(2) Shows the names of the disassembling/reassembling parts.
(3) Shows the parts and points to be disassembled/reassembled, such as screws.

(Ex.)
- 4(S1) = Remove the 4 screws at S1.
- 3(L1) = Disengage the 3 hooks at L1.
- 2(SD1) = Remove solder at 2 points at SD1.
- *Connector Ⓐ = Unplug connector at Ⓐ.
- (P1) = Remove the spring at P1.

(4) Indicates the part numbers at the time of reassembling.

1.3 DISASSEMBLY

STEP /LOC NO.	PART NAME	POINT	PART NUMBER
①	UPPER CASE ASSEMBLY	4(S1)	QYTDSF3008Z
②	PL BASE SA PUSH LEVER (1) PUSH LEVER (2)	W1 S2	PQM30017-47 QYTDST3006Z
③	MAIN BOARD ASSEMBLY	2(S3)	QYTDST3006Z
④	MECHANISM ASSEMBLY	3(S4)	QYTDSF3008Z
⑤	SWITCHING REGULATOR BOARD ASSEMBLY	4(S5)	QYTDSF3008Z

NOTES: • *The screw securing torque in assembly should be 0.59 N-m (6 kgf-cm).*
• *The distribution and installation of wires should be confirmed as described in "1.4 Wiring Treatment".*

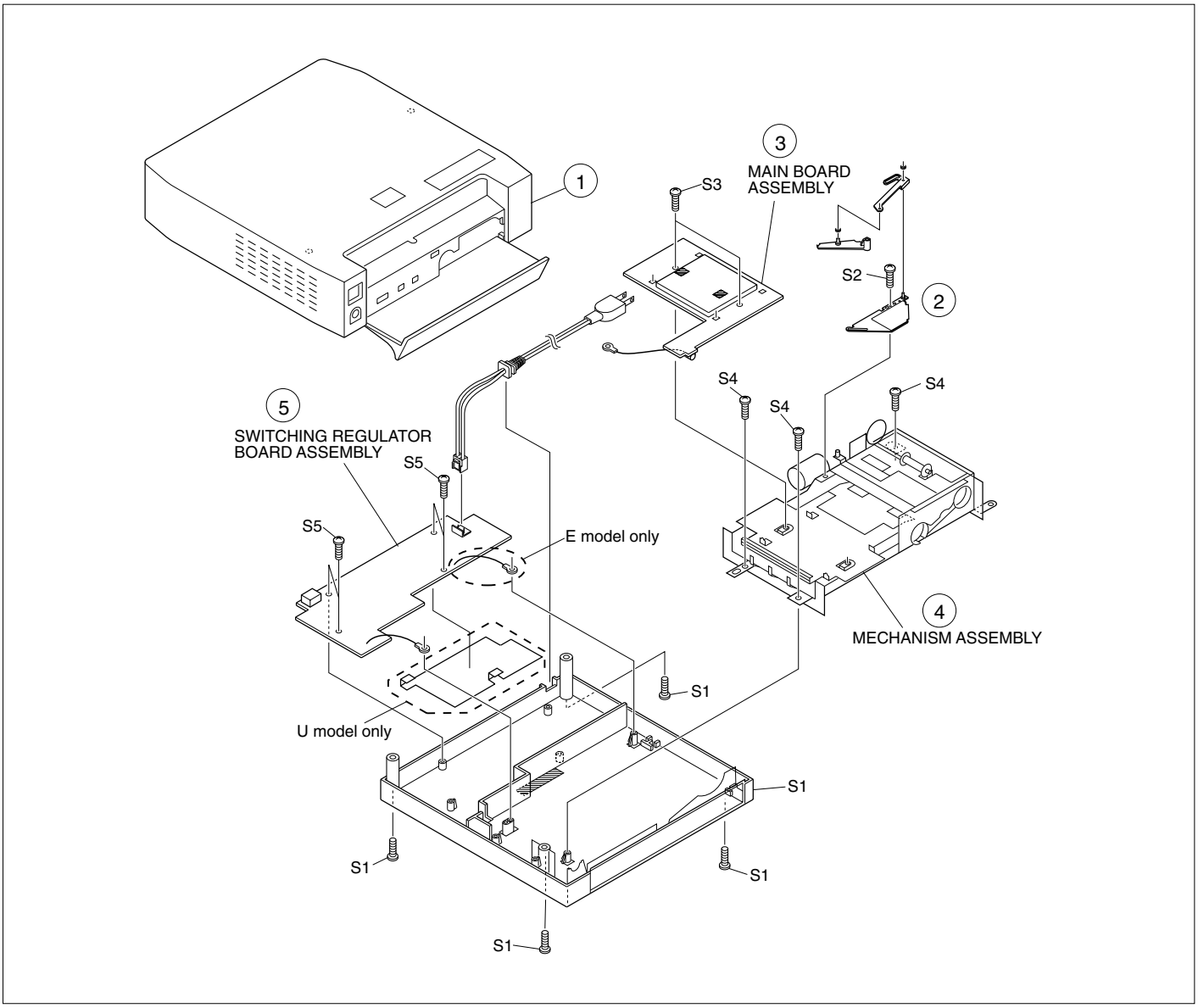


Fig. 1-3-1

1.4 WIRING TREATMENT

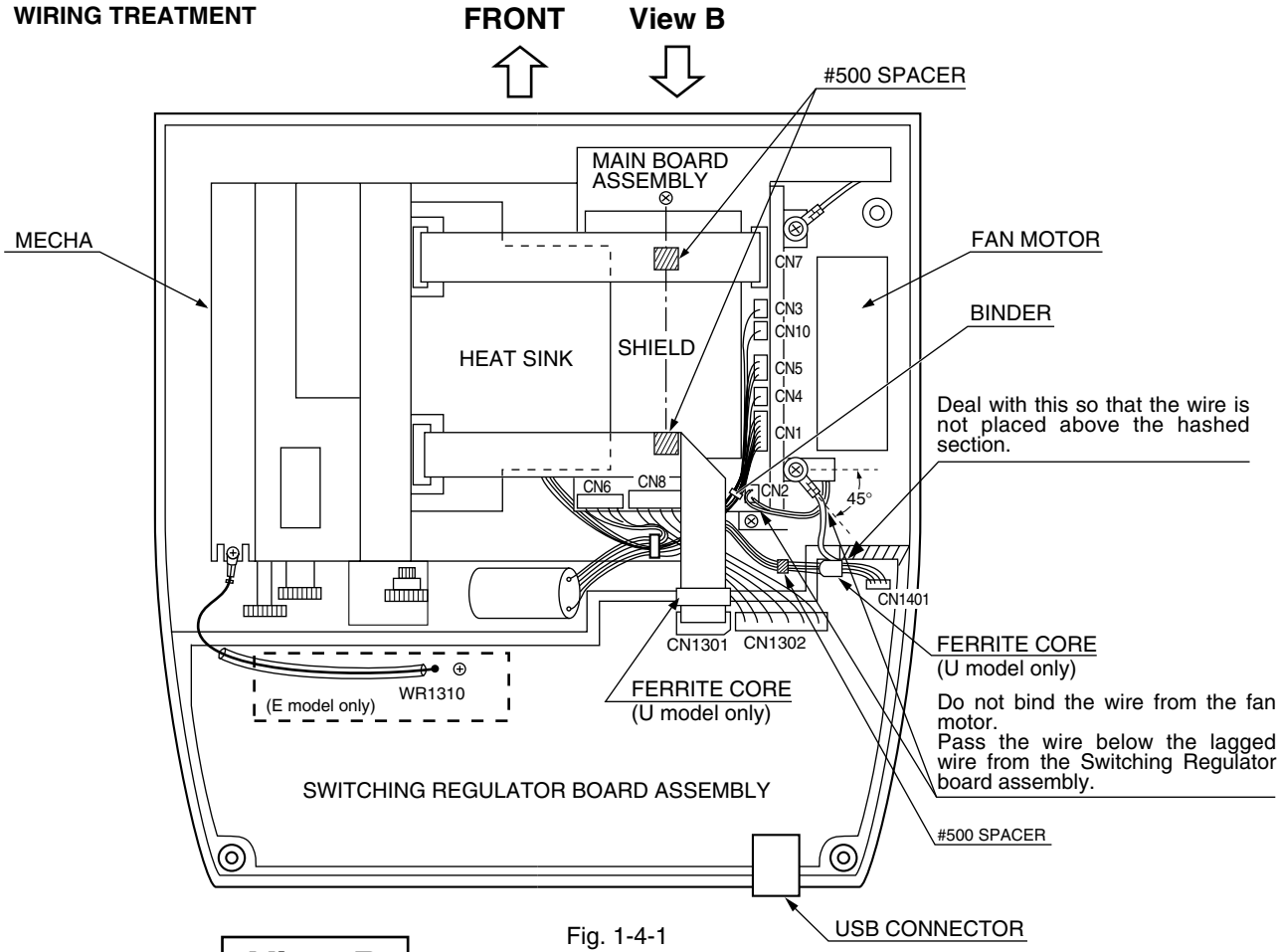


Fig. 1-4-1

View B

The flat wire from CN7 of the Main board assembly should be bent perpendicularly at the base of the reinforcing plate. Treat the wire so that it is located at less than 5 mm above the connector.

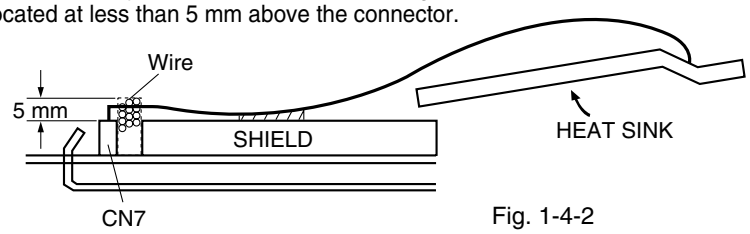


Fig. 1-4-2

NOTES:

1. *Treat the wires from CN1, CN3, CN4, CN5 and CN10 of the Main board assembly by pushing them into the space between the shield and connectors.*
2. *Attach the binder above the Main board assembly around the lines between CN2 and CN8.*
3. *When attaching the Main board assembly, handle the wire from the Ink Switch board assembly in such a way that it is not caught between the main frame and the Main board assembly.*

<Wire connection schemes>

1	MAIN	CN6	pin 11	⟷	SENSOR(2)	CN201	pin 8	Connected to ④ to ⑪. ① to ③ are connector to Sensor (5) CN501.
2	MAIN	CN2	pin 2	⟷	FAN MOTOR	pin 2		
3	MAIN	CN1	pin 7	⟷	INK SW	CN1	pin 5	Connected to ① to ⑤. ⑥ to ⑦ are connector to Sensor (1) CN101.
4	MAIN	CN4	pin 2	⟷	MODE MOTOR		pin 2	Connect the wire (orange) from pin 2 of Mode Motor to silk-screen printing “O (Orange)” adjacent to Main CN4.
5	MAIN	CN5	pin 3	⟷	SENSOR(6)	FW601	pin 3	
6	MAIN	CN10	pin 2	⟷	TRAY SW	FW701	pin 2	Connect the wire (gray) from pin 2 of Tray SW to silk-screen printing “G (Gray)” adjacent to Main CN10.
7	MAIN	CN3	pin 2	⟷	FEED MOTOR		pin 2	Connect the wire (yellow) from pin 2 of Fan Motor to silk-screen printing “Y (Yellow)” adjacent to Main CN3.
8	MAIN	CN8	pin 8	⟷	SW REG	CN1302	pin 8	
9	MAIN	CN7	pin 16	⟺	HEAD		pin 16	
10	SW REG	CN1301	pin 10	⟺	HEAD		pin 10	

NOTES: • *The arrows indicating the connector destinations also indicate the types of connectors (wires).*
• ⟺ : Flat wire ⟷ : Wire

1.5 PRINTER LED DISPLAY SPECIFICATIONS

1.5.1 Power LED

When lit : Normal mode power ON.
Extinguished : Power OFF.

1.5.2 Print LED/Error LED

	Print LED	Error LED
During printing stop	OFF ○	OFF ○
During image data receive	Blinking ◎	OFF ○
During print preparation	Blinking ◎	OFF ○
During print execution	ON ●	OFF ○
Paper error	OFF ○	ON ●
Ink error	OFF ○	Blinking ◎
Temperature error	Blinking ◎	Blinking ◎

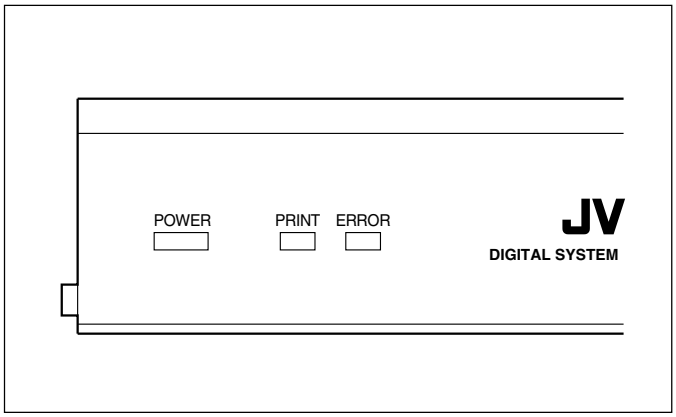


Fig. 1-5-1

1.5.3 Resetting Error Display

Paper error : Remove the paper tray and set the paper tray SW to OFF then ON again.
Ink error : Remove the ink cassette and check the ribbon condition. If there is no problem with the ribbon, set the ink cassette SW to OFF then ON again.
Temperature error : Leave the unit for a while before checking the temperature sensor.

1.6 DESCRIPTION OF NEW TECHNOLOGY

1.6.1 Printer Controller(IC1) Pin function (1/3)

Pin No.	Pin Name	IN/OUT	Function
1	VDD	-	AL3.3V
2	A31	-	Not used
3	A30	-	Not used
4	A29	-	Not used
5	A28	-	Not used
6	A27	-	Not used
7	A26	-	Not used
8	A25	-	Not used
9	A24	-	Not used
10	GND	-	Ground
11	A23	-	Not used
12	A22	-	Not used
13	A21	OUT	Address bus (External bus interface)
14	A20	OUT	Address bus (External bus interface)
15	A19	OUT	Address bus (External bus interface)
16	A18	OUT	Address bus (External bus interface)
17	A17	OUT	Address bus (External bus interface)
18	A16	OUT	Address bus (External bus interface)
19	VDD	-	AL3.3V
20	A15	OUT	Address bus (External bus interface)
21	A14	OUT	Address bus (External bus interface)
22	A13	OUT	Address bus (External bus interface)
23	A12	OUT	Address bus (External bus interface)
24	A11	OUT	Address bus (External bus interface)
25	A10	OUT	Address bus (External bus interface)
26	A9	OUT	Address bus (External bus interface)
27	A8	OUT	Address bus (External bus interface)
28	GND	-	Ground
29	A7	OUT	Address bus (External bus interface)
30	A6	OUT	Address bus (External bus interface)
31	A5	OUT	Address bus (External bus interface)
32	A4	OUT	Address bus (External bus interface)
33	A3	OUT	Address bus (External bus interface)
34	A2	OUT	Address bus (External bus interface)
35	A1	OUT	Address bus (External bus interface)
36	A0	OUT	Address bus (External bus interface)
37	VDD	-	AL3.3V
38	X32MIN	IN	Oscillation terminal for CPU main clock
39	X32MOUT	-	Not used
40	GND	-	Ground
41	X32KIN	-	Not used
42	X32KOUT	-	Not used
43	VDD	-	AL3.3V
44	EXT11	-	Not used
45	EXT10	-	Not used
46	EXT9	-	Not used
47	EXT8	-	Not used
48	EXT7	-	Not used
49	EXT6	-	Not used
50	EXT5	-	Not used
51	EXT4	-	Not used
52	VSS	-	Ground
53	VDD	-	AL3.3V
54	EXT3	-	Not used
55	EXT2	-	Not used
56	EXT1	-	Not used
57	EXT0	-	Not used
58	SDA13	-	Not used
59	SDA12	-	Not used
60	SDA11	-	Not used
61	SDA10	OUT	Address bus (SDRAM)
62	GND	-	Ground
63	D15	IN/OUT	Data bus (External bus interface)
64	D14	IN/OUT	Data bus (External bus interface)
65	D13	IN/OUT	Data bus (External bus interface)
66	D12	IN/OUT	Data bus (External bus interface)
67	D11	IN/OUT	Data bus (External bus interface)
68	D10	IN/OUT	Data bus (External bus interface)
69	D9	IN/OUT	Data bus (External bus interface)
70	D8	IN/OUT	Data bus (External bus interface)
71	VDD	-	AL3.3V

Printer Controller(IC1) Pin function (2/3)

Pin No.	Pin Name	IN/OUT	Function
72	D7	IN/OUT	Data bus (External bus interface)
73	D6	IN/OUT	Data bus (External bus interface)
74	D5	IN/OUT	Data bus (External bus interface)
75	D4	IN/OUT	Data bus (External bus interface)
76	D3	IN/OUT	Data bus (External bus interface)
77	D2	IN/OUT	Data bus (External bus interface)
78	D1	IN/OUT	Data bus (External bus interface)
79	D0	IN/OUT	Data bus (External bus interface)
80	GND	-	Ground
81	DSEL1	-	Chip select for external ASIC (Not used)
82	DSEL0	OUT	Chip select for IC201
83	JTAGMODE	IN	JTAG MODE switching (H:ARM)
84	TREQB	IN	Test request B
85	INT3	IN	Interrupt input
86	INT2	IN	Interrupt input, HP SYNC input (From IC201)
87	INT1	IN	Interrupt input, FGINT input (From IC201)
88	INT0	IN	Interrupt input, ASICINT input (From IC201)
89	VDD	-	AL3.3V
90	TXD	OUT	UART data output
91	RXD	IN	UART data input
92	CTS	-	CLEAR TO SEND (Not used)
93	DSR	-	DATA SET READY (Not used)
94	DCD	-	DATA CARRIER DETECT (Not used)
95	GND	-	Ground
96	SIRIN	-	IrDA input (Not used)
97	SIROUT	-	IrDA output (Not used)
98	Rx_vpi	-	VP input (Not used)
99	Rx_vmi	-	VM input (Not used)
100	Rx_data	-	Receive data (Not used)
101	Tx_oe_n	-	Output enable (Not used)
102	Tx_vpo	-	VP output (Not used)
103	Tx_vmo	-	VM output (Not used)
104	VSS	-	Ground
105	VDD	-	AL3.3V
106	USBCLK	-	Clock input for USB (48MHz) (Not used)
107	FG1	-	FG1 input (Not used)
108	FG2	-	FG2 input (Not used)
109	PWM	OUT	PWM output
110	GND	-	Ground
111	SI16	-	SSI16 data input (Not used)
112	SO16	-	SSI16 data output (Not used)
113	SOCLK16	-	SSI16 send clock (Not used)
114	SICLK16	-	SSI16 receive clock (Not used)
115	VDD	-	AL3.3V
116	PORT031	-	Programmable I/O (Not used)
117	PORT030	OUT	Programmable I/O, POWER TN output
118	PORT029	-	Programmable I/O (Not used)
119	SI8	-	SSI8 data input (Not used)
120	SO8	-	SSI8 data output (Not used)
121	SOCLK8	-	SSI8 send clock (Not used)
122	SICLK8	-	SSI8 receive clock (Not used)
123	PORT16	-	Programmable I/O (Not used)
124	INTROME	-	Internal ROM enable (Not used)
125	USB_SUSPEND	OUT	USB transceiver suspend output
126	PORT15	-	Programmable I/O (Not used)
127	PORT14	-	Programmable I/O (Not used)
128	PORT13	IN	Programmable I/O, TEST PRT3 input
129	PORT12	IN	Programmable I/O, TEST PRT3 input
130	PORT11	IN	Programmable I/O, TEST PRT3 input
131	PORT10	IN	Programmable I/O, CONTINUE PRT input
132	TIMEROUT	-	TIMER output (Not used)
133	MAINCLK	-	Main clock output
134	GND	-	Ground
135	SDCKE	OUT	SDRAM clock enable
136	SDCLK	OUT	SDRAM clock
137	SDCS	OUT	SDRAM chip select
138	RAS	OUT	SDRAM RAS
139	CAS	OUT	SDRAM CAS
140	SDWE	OUT	SDRAM write enable
141	VDD	-	AL3.3V
142	UDQM	OUT	SDRAM higher byte data mask

Printer Controller(IC1) Pin function (3/3)

Pin No.	Pin Name	IN/OUT	Function
143	LDQM	OUT	SDRAM lower byte data mask
144	FOEB	OUT	FLASH ROM output enable
145	FCEB	OUT	FLASH ROM chip enable
146	FWEB	OUT	FLASH ROM write enable
147	GND	-	Ground
148	DIR	OUT	Direction output
149	P_STB	OUT	Strobe signal for IC201
150	P_WRITE	OUT	Read/write control signal for IC201
151	INT[4]	IN	Interrupt input
152	PORT027	-	Programmable I/O (Not used)
153	PORT026	-	Programmable I/O (Not used)
154	AVDD	-	AL3.3V
155	VREF	IN	Reference input for AD
156	VSS(AGND)	-	Ground
157	AVDD	-	AL3.3V
158	AIN0	IN	AD input, CASSSEL SW1/2 input
159	AIN1	IN	AD input, CASSSEL SW3/4 input
160	AIN2	IN	AD input, THERMISTOR input
161	AIN3	-	AD input (Not used)
162	AIN4	IN	AD input, PPRENDPTR input
163	AIN5	IN	AD input, PPR TOP PTR input
164	AIN6	IN	AD input, INK PTR input
165	AIN7	-	AD input (Not used)
166	AGND	-	Ground
167	GND	-	Ground
168	TBE	IN	Test terminal
169	TCK	IN	JTAG system clock
170	TMS	IN	JTAG mode select
171	TDI	IN	JTAG data input
172	TDO	OUT	JTAG data output
173	nTRST	IN	JTAG reset
174	TREQA	IN	Test request A
175	TACK	-	Test acknowledgment (Not used)
176	RESET	IN	System reset
177	VDD	-	AL3.3V
178	P025	-	Programmable I/O (Not used)
179	P024	IN	Programmable I/O, TRAY SW input
180	P023	IN	Programmable I/O, JIG OPE input
181	P022	IN	Programmable I/O, MECHA JIG input
182	P021	IN	Programmable I/O, INK CAS SW input
183	P020	IN	Programmable I/O, STBMSK input
184	P019	-	Programmable I/O (Not used)
185	P018	-	Programmable I/O (Not used)
186	P017	IN	Programmable I/O, MODE SW input
187	P016	IN	Programmable I/O, MODE PTR input
188	GND	-	Ground
189	P015	IN	Programmable I/O, JIG OUT input
190	P014	IN	Programmable I/O, SLSERIAL input
191	P013	-	Programmable I/O (Not used)
192	P012	-	Programmable I/O (Not used)
193	P011	IN	Programmable I/O
194	P010	OUT	Programmable I/O, PRINT LED output
195	P009	OUT	Programmable I/O, ERROR LED output
196	P008	OUT	Programmable I/O, POWER LED output
197	P007	OUT	Programmable I/O, CPU P CTL output
198	P006	OUT	Programmable I/O, CPU RESET output
199	P005	OUT	Programmable I/O, CPU PWR output (“L” active)
200	P004	OUT	Programmable I/O, COOLING FAN output
201	P003	OUT	Programmable I/O, MODE MOTOR REV output
202	P002	OUT	Programmable I/O, MODE MOTOR FWD output
203	P001	OUT	Programmable I/O, P.FEED MOTOR REV output
204	P000	OUT	Programmable I/O, P.FEED MOTOR FWD output
205	TESTENB	-	Test mode enable (Not used)
206	TESTWRB	-	Test mode write enable (Not used)
207	TESTCLKB	-	Test mode write clock (Not used)
208	VSS	-	Ground

1.6.2 Printer engine(IC201) Pin function (1/2)

Pin No.	Pin Name	IN/OUT	Function
1	VDD	-	AL3.3V
2	GND	-	Ground
3	TEST0	IN	Test mode input, fixed at "H" in actual operation
4	TEST1	IN	Test mode input, fixed at "H" in actual operation
5	TEST2	IN	Test mode input, fixed at "H" in actual operation
6	TEST3	IN	Test mode input, fixed at "H" in actual operation
7	TEST4	IN	Test mode input, fixed at "L" in actual operation
8	VDD	-	AL3.3V
9	GND	-	Ground
10	XMCLRP	IN	Master reset ("L" active)
11	GND	-	Ground
12	HCLK	IN	Head CTL master clock (MAX 32MHz)
13	GND	-	Ground
14	MCLK	IN	Master clock for other parts than Head CTL (MAX 32MHz)
15	GND	-	Ground
16	VDD	-	AL3.3V
17	SRCLK	IN	Serial image I/F sync clock input (MAX MCLK/4)
18	XSDEN	IN	Serial image I/F data enable ("L" active)
19	SDI	IN	Serial image I/F data input
20	SLSERILP	IN	Image data input port select (H: Serial port, L: Bus input)
21	EXTSYNCP	IN	External sync pulse input
22	VDD	-	AL3.3V
23	GND	-	Ground
24	EXTCLK	-	Timer external clock input (MAX MCLK/2) (Not used)
25	STBMSK	IN	Head strobe "XHEDSTB" forced disable input (H: Forced disable)
26	UTSI0	IN	Fixed at "L" in actual operation
27	UTSI1	IN	Fixed at "L" in actual operation
28	UTSI2	IN	Fixed at "L" in actual operation
29	GND	-	Ground
30	UTSI3	IN	Fixed at "L" in actual operation
31	UTSI4	IN	Fixed at "L" in actual operation
32	UTSI5	IN	Fixed at "L" in actual operation
33	UTSI6	IN	Fixed at "L" in actual operation
34	UTSI7	IN	Fixed at "L" in actual operation
35	UTSI8	IN	Fixed at "L" in actual operation
36	GND	-	Ground
37	VDD	-	AL3.3V
38	XSDRQ	OUT	Serial image port data request output
39	HPENB2	-	Print line sync pulse output (Not used)
40	VPENB	-	Print frame pulse output ("L" active) (Not used)
41	XHDHWEN	-	Print data effective area pulse ("L" active) (Not used)
42	VDD	-	AL3.3V
43	GND	-	Ground
44	HDDAT0	-	Head data output 0 (Not used)
45	HDDAT1	OUT	Head data output 1
46	HDDAT2	-	Head data output 2 (Not used)
47	HDDAT3	OUT	Head data output 3
48	VDD	-	AL3.3V
49	GND	-	Ground
50	HDDAT4	-	Head data output 4 (Not used)
51	HDDAT5	OUT	Head data output 5
52	HDDAT6	-	Head data output 6 (Not used)
53	HDDAT7	OUT	Head data output 7
54	VDD	-	AL3.3V
55	GND	-	Ground
56	HDDAT8	-	Head data output 8 (Not used)
57	HDDAT9	OUT	Head data output 9
58	HDDAT10	-	Head data output 10 (Not used)
59	HDDAT11	OUT	Head data output 11
60	VDD	-	AL3.3V
61	GND	-	Ground
62	HDDAT12	-	Head data output 12 (Not used)
63	HDDAT13	OUT	Head data output 13
64	HDDAT14	-	Head data output 14 (Not used)
65	HDDAT15	OUT	Head data output 15
66	VDD	-	AL3.3V
67	GND	-	Ground
68	HDDAT16	-	Head data output 16 (Not used)
69	HDDAT17	OUT	Head data output 17
70	HDDAT18	-	Head data output 18 (Not used)
71	HDDAT19	OUT	Head data output 19
72	VDD	-	AL3.3V

Printer engine(IC201) Pin function (2/2)

Pin No.	Pin Name	IN/OUT	Function
73	GND	-	Ground
74	XHEADLAT	OUT	Head data latch pulse output (“L” active)
75	XHEDSTB0	OUT	Head strobe output 0 (XHEADSTB0/1 are identical except in case of non-divided strobe.)
76	XHEDSTB1	-	Head strobe output 1 (XHEADSTB0/1 are identical except in case of non-divided strobe.) (Not used)
77	HEDCLK	OUT	Head clock output
78	VDD	-	AL3.3V
79	GND	-	Ground
80	DATA0	IN/OUT	MCU data 0
81	DATA1	IN/OUT	MCU data 1
82	DATA2	IN/OUT	MCU data 2
83	DATA3	IN/OUT	MCU data 3
84	DATA4	IN/OUT	MCU data 4
85	DATA5	IN/OUT	MCU data 5
86	VDD	-	AL3.3V
87	GND	-	Ground
88	DATA6	IN/OUT	MCU data 6
89	DATA7	IN/OUT	MCU data 7
90	DATA8	IN/OUT	MCU data 8
91	DATA9	IN/OUT	MCU data 9
92	DATA10	IN/OUT	MCU data 10
93	DATA11	IN/OUT	MCU data 11
94	VDD	-	AL3.3V
95	GND	-	Ground
96	DATA12	IN/OUT	MCU data 12
97	DATA13	IN/OUT	MCU data 13
98	DATA14	IN/OUT	MCU data 14
99	DATA15	IN/OUT	MCU data 15
100	XINT	OUT	Main interrupt output (“H” active)
101	VDD	-	AL3.3V
102	GND	-	Ground
103	BIGENDIAN	IN	MCU data bus BYTE swap control input (H: swap)
104	MPMD	IN	MCU mode setting input (L: SH, H: ARM)
105	MPDLSL0	IN	MCU access hold time compensation delay control input 0
106	MPDLSL1	IN	MCU access hold time compensation delay control input 1
107	GND	-	Ground
108	VDD	-	AL3.3V
109	ADD1	IN	MCU address input 1
110	ADD2	IN	MCU address input 2
111	ADD3	IN	MCU address input 3
112	ADD4	IN	MCU address input 4
113	ADD5	IN	MCU address input 5
114	ADD6	IN	MCU address input 6
115	ADD7	IN	MCU address input 7
116	VDD	-	AL3.3V
117	GND	-	Ground
118	XCS	IN	Chip select input (MPMD“L”: “L” active, MPMD“H”: “H” active)
119	WTL	IN	MCU access control input
120	WTH	IN	MCU access control input
121	XRD	IN	MCU access control input
122	GND	-	Ground
123	VDD	-	AL3.3V
124	TEST5	IN	Test mode input, fixed at “L” in actual operation
125	TEST6	IN	Test mode input, fixed at “L” in actual operation
126	TEST7	IN	Test mode input, fixed at “L” in actual operation
127	TEST8	IN	Test mode input, fixed at “L” in actual operation
128	TEST9	IN	Test mode input, fixed at “L” in actual operation
129	TEST10	IN	Test mode input, fixed at “L” in actual operation
130	TEST11	IN	Test mode input, fixed at “L” in actual operation
131	VDD	-	AL3.3V
132	GND	-	Ground
133	FG1	IN	DC motor FG pulse 1 input
134	TEST13	IN	Test mode input, fixed at “L” in actual operation
135	TEST14	IN	Test mode input, fixed at “L” in actual operation
136	FG2	IN	DC motor FG pulse 2 input
137	VDD	-	AL3.3V
138	GND	-	Ground
139	FGINT	OUT	DC motor interrupt output (“H” active)
140	TEST17	IN	Test mode input, fixed at “L” in actual operation
141	TEST18	IN	Test mode input, fixed at “L” in actual operation
142	HPOUT	OUT	HP pulse output
143	GND	-	Ground

SECTION 2
MECHANISM ADJUSTMENT

2. 1 BEFORE SERVICING/DISASSEMBLING

2.1.1 Precautions

1) When using the soldering iron, be sure to disconnect the power plug.
2) When connecting/disconnecting the connector, pay attention not to damage the wiring.
3) Do not handle roughly around the adjustment points when identifying them.
4) Pay special attention not to damage the hooks or catches by mistake during operation.
5) When mounting the screws, there are 4 types of tightening torque for the screws used in this model as follows:

   a: 0.59N.m (6 kgf.cm)
   b: 0.35N.m (3.5 kgf.cm)
   c: 0.01N.m (1.0 kgf.cm)
   d: 0.055N.m (0.5 kgf.cm)

2.1.2 Disassembling and reassembling

The following chart shows the disassembling/reassembling procedure of the mechanism parts. Be sure to read the following precautions carefully before starting the actual operation.

STEP /LOC NO.	PART NAME	FIG. NO.	POINT	NOTE
①-1	MAIN BOARD ASSEMBLY	M1	2(S1)	
②-1	SENSOR (1) BOARD ASSEMBLY	M2	2(S2)	
③-1	WORM BRACKET	M3	(S3)	

(1) (2) (3) (4) (5)

(1) : Shows the disassembling order. Perform in the reverse order when reassembling. They also refer to the numbers indicated in the disassembling diagram.
(2) : Shows the name of the part to be disassembled/reassembled.
(3) : Shows the number of the disassembling diagram and the section to which it belongs.
(4) : Shows the part or point to be removed when disassembling/reassembling, such as screw, washer or spring, etc.

Symbols	Part name and Point
S	Screw
L	Lock
SD	Solder
K	Positioning pins
P	Spring
W	Washer
*	Connector, etc.

(Ex.) About Symbols
4(S1) = Remove the 4 screws at S1.
3(L1) = Disengage the 3 locks or catches at L1.
2(SD1) = Remove solder at 2 points at SD1.
3(K1) = Remove the 3 positioning pins at K1.
2(P1) = Remove the 2 springs at P1.

(5) : Remarks on disassembling/reassembling
Shows the information of the parts requiring notes or phase adjustment when disassembling/reassembling.

2.1.3 Screws and washers used in the Mechanism Parts and Board Assembly

Screws shown in the Table 2-1-1 and 2-1-2 indicate the symbol, shape, part number and tightening torque (a - d) of the screws used in the disassembling/reassembling diagrams of the mechanism parts and board assemblies. Use the correct screws when mounting by referring to the following table.

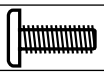
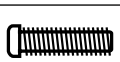
Symbol	Shape	Part number	Tightening torque
S1		QYSDST3006Z	a
S2		QYSDST2604Z	a
S3		QYSPSN2035Z	a
S4		QYSPSN1730Z	a
S5		QYSWSP2604Z	d
S6		QYSDSP2606Z	a
S7		QYSPSP1730Z	d

Table 2-1-1

Symbol	Shape	Part number
W1		PQM30017-38
W2		PQM30017-47
W3		PQM30017-4
W4		PQM30017-12

Table 2-1-2

2.2 DISASSEMBLING/REASSEMBLING OF THE MECHANISM

Order/No.	Part name	Fig. No.	Point	Remarks
①-1	MAIN BOARD ASSEMBLY	M1	2(S1)	
①-2	INK SW BOARD ASSEMBLY	M1	(S2)	
①-3	MAIN FRAME	M1	2(S2), WIRE CLAMP,COMPRESSION SPRING	
②-1	SENSOR (1) BOARD ASSEMBLY	M2	(S2)	
②-2	SENSOR (5) BOARD ASSEMBLY	M2	(S2)	
②-3	SENSOR (3) BOARD ASSEMBLY	M2	(S2)	
②-4	SENSOR (2) BOARD ASSEMBLY	M2	(S2)	
②-5	UPPER FRAME	M2	2(S2), GND WIRE	
②-6	OUT ROLLER ASSEMBLY	M2		
②-7	INK GUIDE	M2	2(S2)	
②-8	SUB BRACKET ASSEMBLY	M2	2(S2)	<NOTE1>
②-9	HEAD CAM (F)	M2	(W1)	
②-10	SENSOR BASE	M2	2(S2)	
②-11	SENSOR (6) BOARD ASSEMBLY	M2	(S3)	
②-12	SENSOR (8) BOARD ASSEMBLY	M2	(S3)	
②-13	SENSOR (4) BOARD ASSEMBLY	M2	(S4)	
②-14	TRAY SW BOARD ASSEMBLY	M2	(S2)	
③-1	WORM BRACKET	M3	(S2)	
③-2	OUT GEAR (3), OUT GEAR (1)	M3	BELT, (W2)	
③-3	CLUTCH ASSEMBLY	M3	(S2)	
③-4	HEAD GEAR (1)	M3	(W2)	
③-5	HEAD GEAR (2)	M3		<NOTE2>
③-6	SLEEVE (R/P)	M3	(W3)	
③-7	REGIST ROLLER ASSEMBLY	M3		
③-8	PLATEN ROLLER ASSEMBLY	M3		
③-9	PINCH SHAFT ASSEMBLY	M3		<NOTE3>
④-1	HEAD ARM (R) ASSEMBLY	M4	(S5)	
④-2	HEAD ARM (R2) ASSEMBLY	M4	SPRING, SPACER, (W4)	
④-3	HEAD CAM (R)	M4	(W1)	
④-4	MOTOR ASSEMBLY	M4	2(S2)	<NOTE4>
④-5	CONTROL PLATE ASSEMBLY	M4		<NOTE5>
④-6	PICK UP GEAR	M4	SPACER	
④-7	HEAD ARM (F) ASSEMBLY	M4	(S5)	
④-8	HEAD ARM (F2) ASSEMBLY	M4	SPRING, SPACER, (W4)	
④-9	FILM GUIDE	M4	(S6)	
④-10	HEAT SINK	M4	2(S6)	
④-11	THERMAL HEAD	M4		
④-12	HEAD COVER	M4	2(S7)	
⑤-1	FRONT FRAME ASSEMBLY	M5		
⑤-2	SIDE FRAME (L) ASSEMBLY	M5	2(S2), SLIDE SPRING	
⑤-3	FEED GUIDE SHAFT	M5		
⑤-4	FEED GEAR ASSEMBLY	M5	BELT, GUIDE ROLLER	
⑤-5	GUIDE PLATE ASSEMBLY	M5		
⑤-6	PICK UP ASSEMBLY	M5	LOAD SPRING	
⑤-7	PINCH ARM ASSEMBLY	M5	TENSION SPRING, (W2)	
⑤-8	SIDE FRAME (R) ASSEMBLY	M5	2(S2)	
⑤-9	REAR FRAME ASSEMBLY	M5		

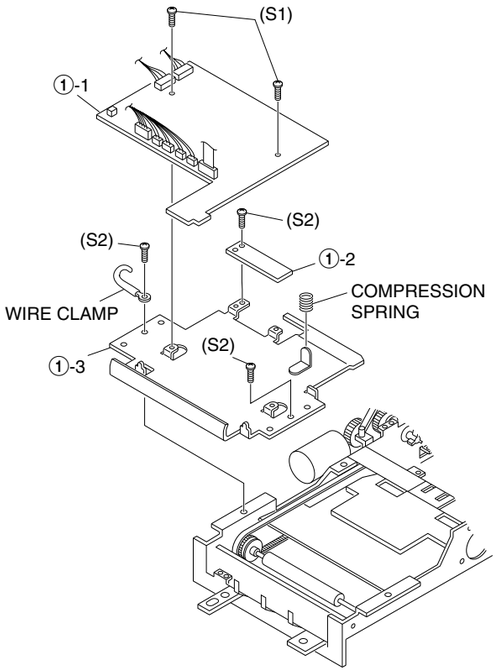


Fig. M1

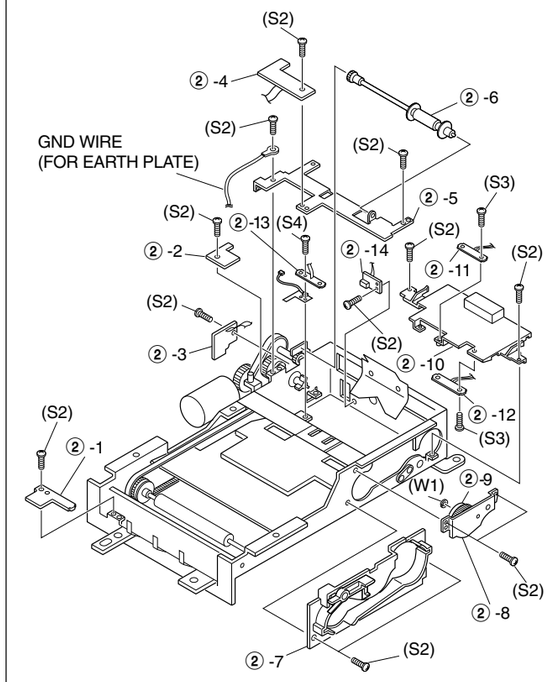


Fig. M2

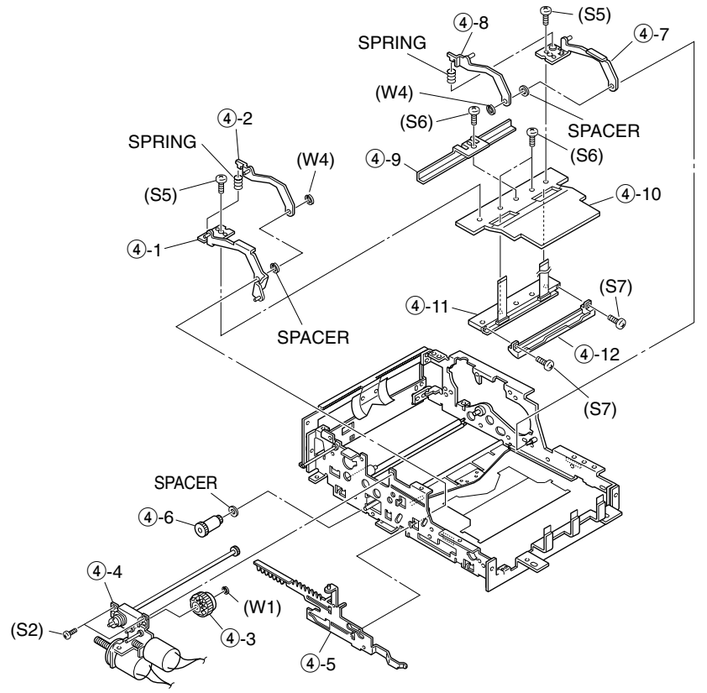


Fig. M4

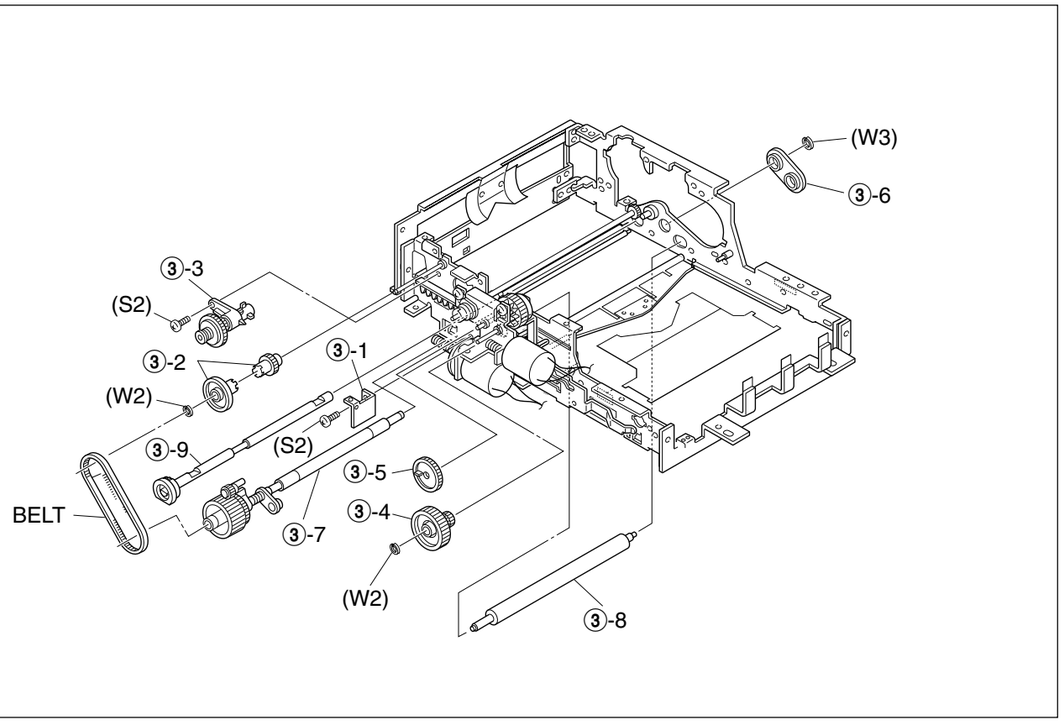


Fig. M3

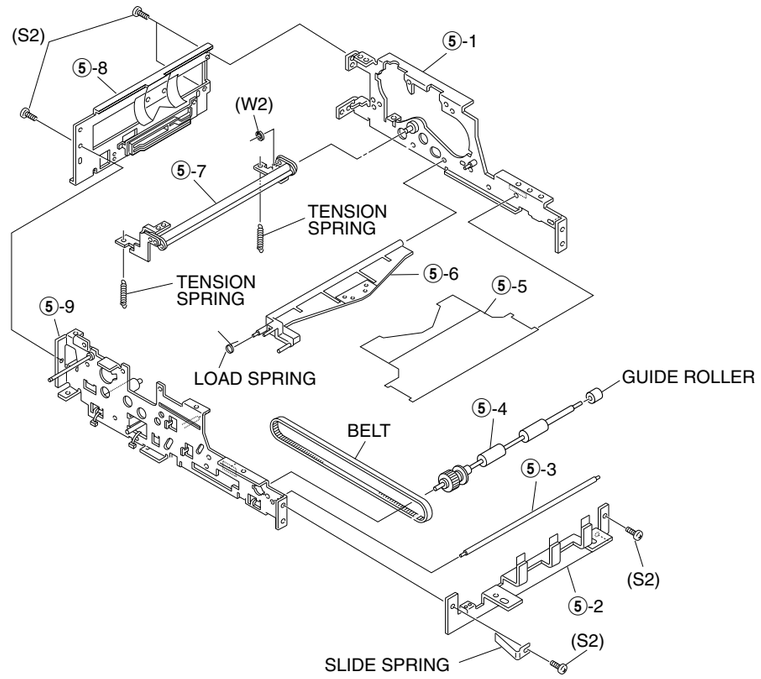


Fig. M5

2.3 MECHANISM PHASE CHECK AND ADJUSTMENT

NOTE1 : *When mounting the Sub Bracket assembly to the Front Frame, be sure to match the positions of the holes as shown in Fig. 2-3-1.*

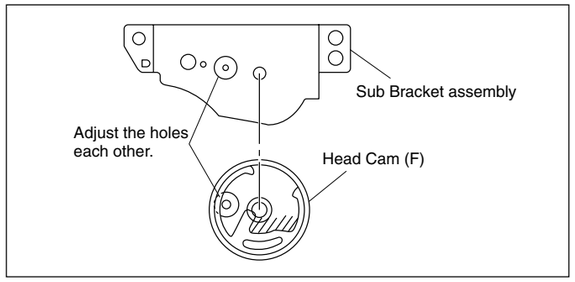


Fig. 2-3-1

NOTE2 : *Mount the Motor assembly to the Rear Frame.*
① Position the gear hole of the Motor assembly.
② After positioning the holes for the Head Gear(2) and the Motor assembly, move one tooth of the Head Gear(2) downward and then mount the Motor assembly. (Fig. 2-3-2)

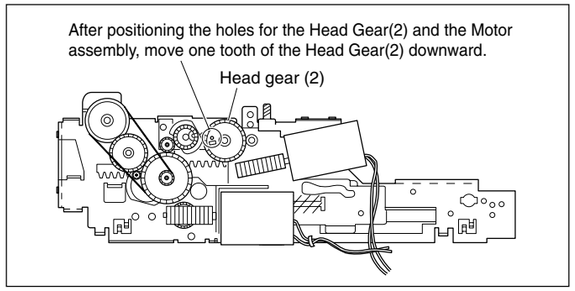

After positioning the holes for the Head Gear(2) and the Motor assembly, move one tooth of the Head Gear(2) downward.
Head gear (2)

Fig. 2-3-2

NOTE3 : *Mount the Pinch Shaft assembly to the Rear Frame.*
Be sure to mount it level as shown in the Fig. 2-3-3.

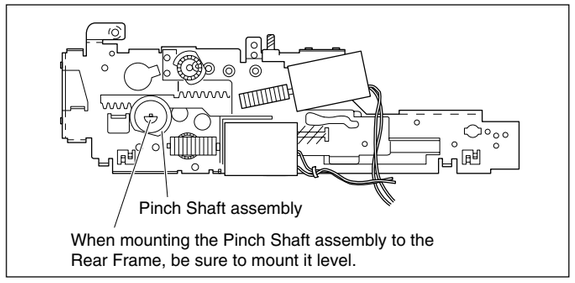


Fig. 2-3-3

NOTE4 : *Mount the Motor assembly to the Rear Frame.*
① Position the gear hole of the Motor assembly.
② Adjust the holes of the Head Cam(R) and the Motor assembly, and mount the Motor assembly. (Fig. 2-3-4)

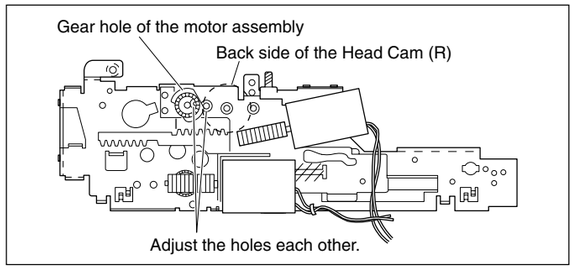


Fig. 2-3-4

NOTE5 : *Mount the Control Plate to the Rear Frame and adjust the hole positions as shown in Fig. 2-3-5.*

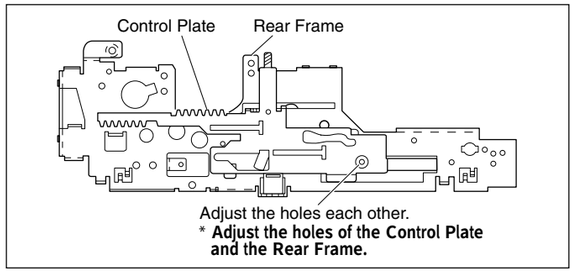


Fig. 2-3-5

2.4 REPLACING THE REGIST ROLLER ASSEMBLY/PLATEN ROLLER ASSEMBLY

1) Take out the Mechanism assembly.
2) Disassemble the Mechanism assembly until the stage is reached from which the Regist Roller assembly and the Platen Roller assembly can be replaced easily.
   ① Remove the 3 screws (S3) retaining the sensor board assembly.
   ② Remove the slit washer (W1) then remove the Out Gears (1),(3) and the Belt.
   ③ Remove the Clutch assembly and screw (S4).
   ④ Remove the sleeve and slit washer (W2).
   ⑤ Remove the Regist Roller assembly and Platen Roller.
3) Replace the Regist Roller assembly and Platen Roller assembly with new ones and attach them by reversing the above procedure.

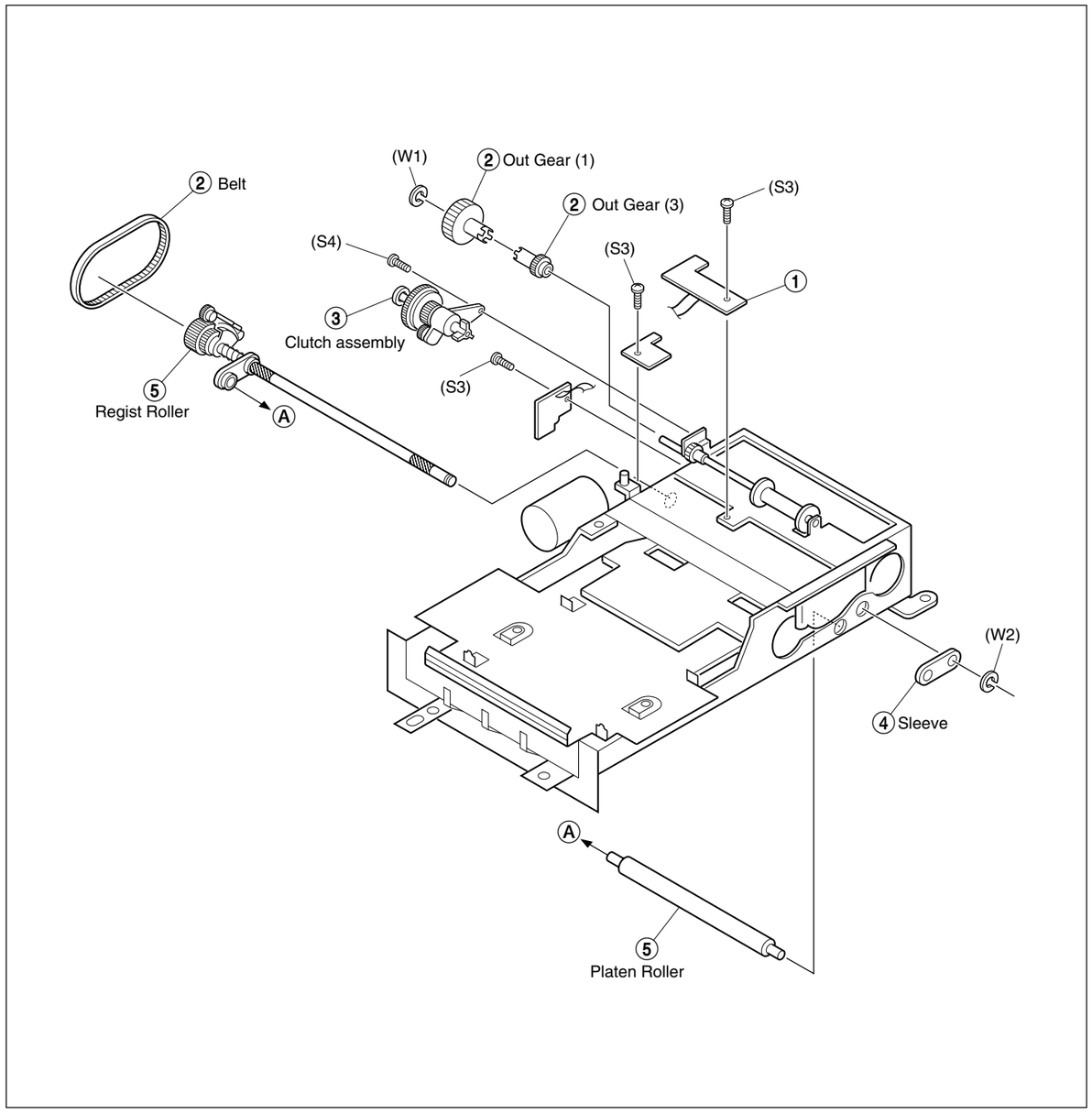


Fig. 2-4-1

2.5 REPLACING THE HEAD ASSEMBLY

1) Take out the Mechanism assembly.
2) Disassemble the Mechanism assembly to the stage from which the Head assembly can be replaced easily.
   ① Remove the 2 screws (S1) retaining the Ink Guide.
   ② Remove the Pickup assembly and load spring from the bottom of the Mechanism assembly.
3) Remove the 3 screws (S2) retaining the Head assembly and Heat Sink, then take out the Head assembly from the lower part of the Mechanism assembly.
4) Replace the Head assembly with a new one and attach it by reversing the above procedure.

<Tip>
As it is not efficient to attach the Film Guide after attaching the Head assembly, it is recommended to slide in the new Head assembly in the clearance between the Heat Sink and Film Guide (See Fig. 2-5-1a.).

5) After replacing the Head assembly, check the SWD 24V adjustment described in "ELECTRICAL ADJUSTMENT".

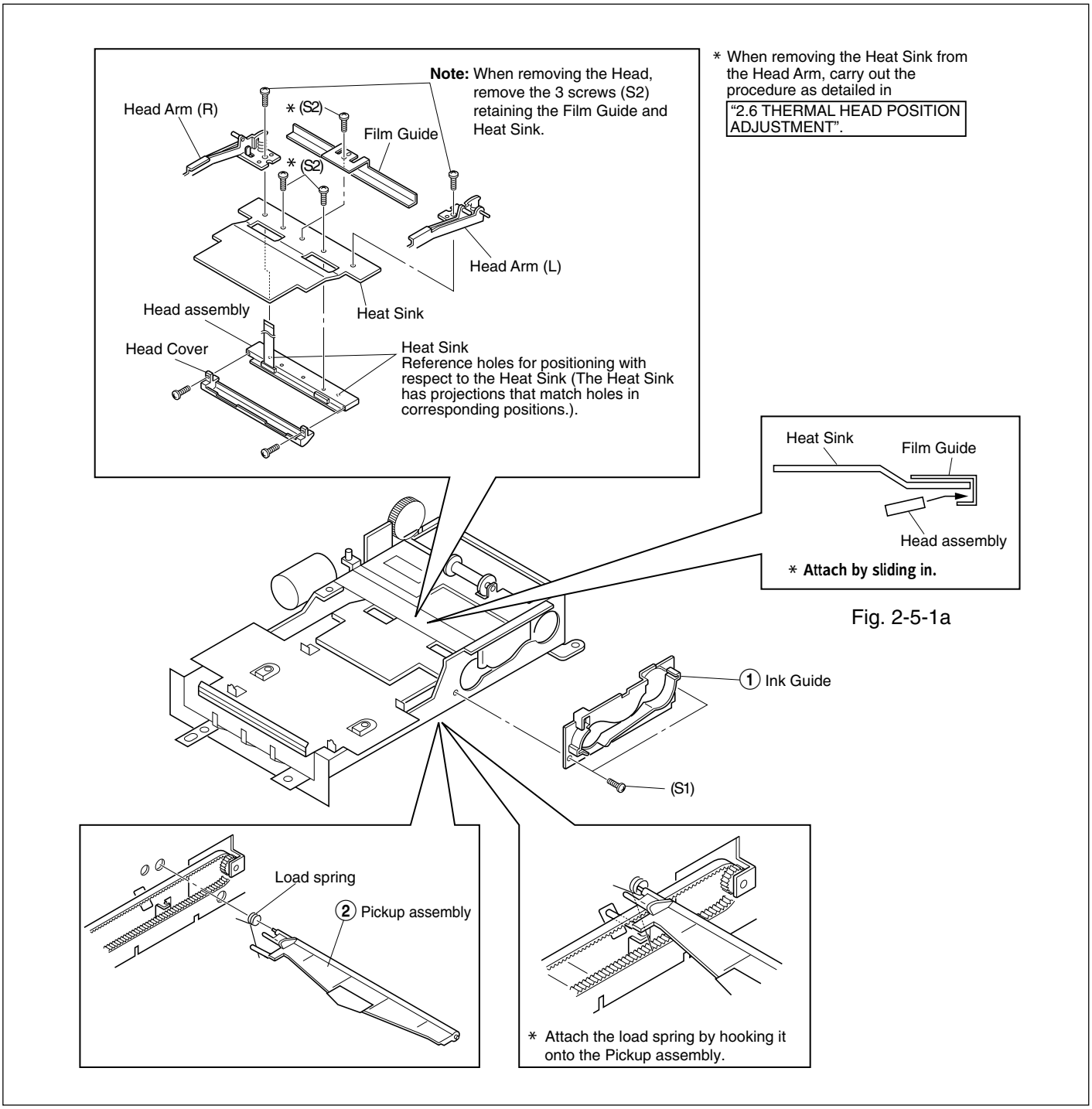

Note: When removing the Head, remove the 3 screws (S2) retaining the Film Guide and Heat Sink.
* When removing the Heat Sink from the Head Arm, carry out the procedure as detailed in "2.6 THERMAL HEAD POSITION ADJUSTMENT".
Head Arm (R)
* (S2)
Film Guide
* (S2)
Head Arm (L)
Head assembly
Heat Sink
Head Cover
Heat Sink
Reference holes for positioning with respect to the Heat Sink (The Heat Sink has projections that match holes in corresponding positions.).
Heat Sink
Film Guide
Head assembly
* Attach by sliding in.
① Ink Guide
(S1)
Load spring
② Pickup assembly
* Attach the load spring by hooking it onto the Pickup assembly.

Fig. 2-5-1a

Fig. 2-5-1

2.6 THERMAL HEAD POSITION ADJUSTMENT

2.6.1 Outline

The mechanism is designed to be movable by about ±0.4 mm by means of the Head Arm and Heat Sink, and the Thermal Head position can be adjusted by means of the Heat Sink. As a result, an adjustment is required after the Heat Sink has been separated from the Head Arm.

The Thermal Head is attached to the mechanism so that only a half of the mechanism can be disassembled unless the Heat Sink is separated from the Head Arm. The remaining half of the mechanism contains the motor and associated parts.

Normal printing requires that the Thermal Head press the ink and paper against the optimum position on the Platen Roller. If for example the pressurized point is deviated obliquely, wave or wrinkle patterns will be observed on the print area and the colors become pale. Even when the parallelism of the Thermal Head is maintained, similar symptoms to the above may be observed when it is deviated upward or downward. The phenomenon described above occurs when the Thermal Head is not pressurized against the designated area on the Platen Roller with the designed pressure values being applied. Since the Platen Roller is a simply rotating part, the part to be re-positioned in this case is that of the Thermal Head alone. Assuming that the optimum position is A,

Standard paper: A ± 0.25 mm (approx.)

The "±" indicates tolerance and the Thermal Head is satisfactory if it is within that tolerance range. In the
actual mechanism, the Thermal Head can be moved by about ± 0.4 mm.

2.6.2 Adjustment Procedure

Assuming that ① in Fig. 2-6-1 indicates optimum position A, normal printing may seem to be possible even
when the position is deviated up or down like ② or ③ or obliquely like ④ or ⑤. However, these figures
show only the extreme cases. In actual operation, if the position is deviated as shown in ②, ③, ④ or ⑤, the
deviation may exceed the tolerance.
In addition, if it is assumed that ② indicates optimum position A, cases ③, ④ and ⑤ exceed the acceptable
tolerance and only ① and ② fall within it.

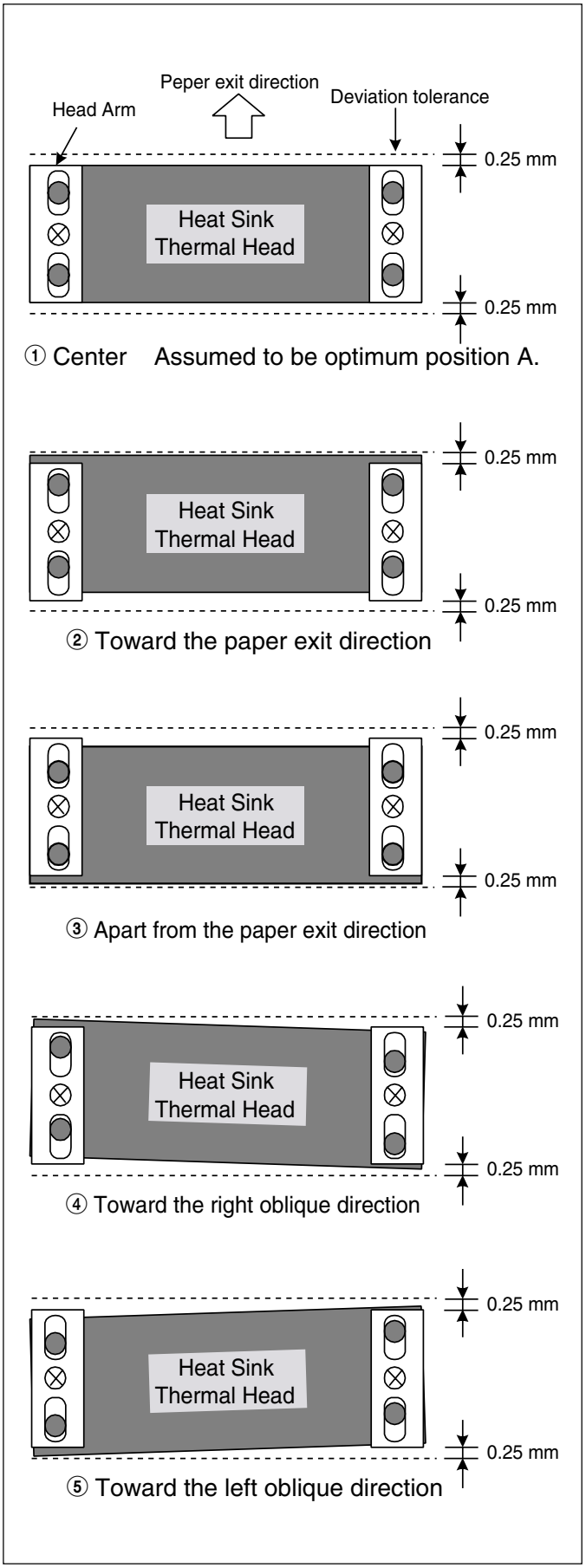


Fig. 2-6-1

Fig. 2-6-2 shows the flow chart of the adjustment procedure.

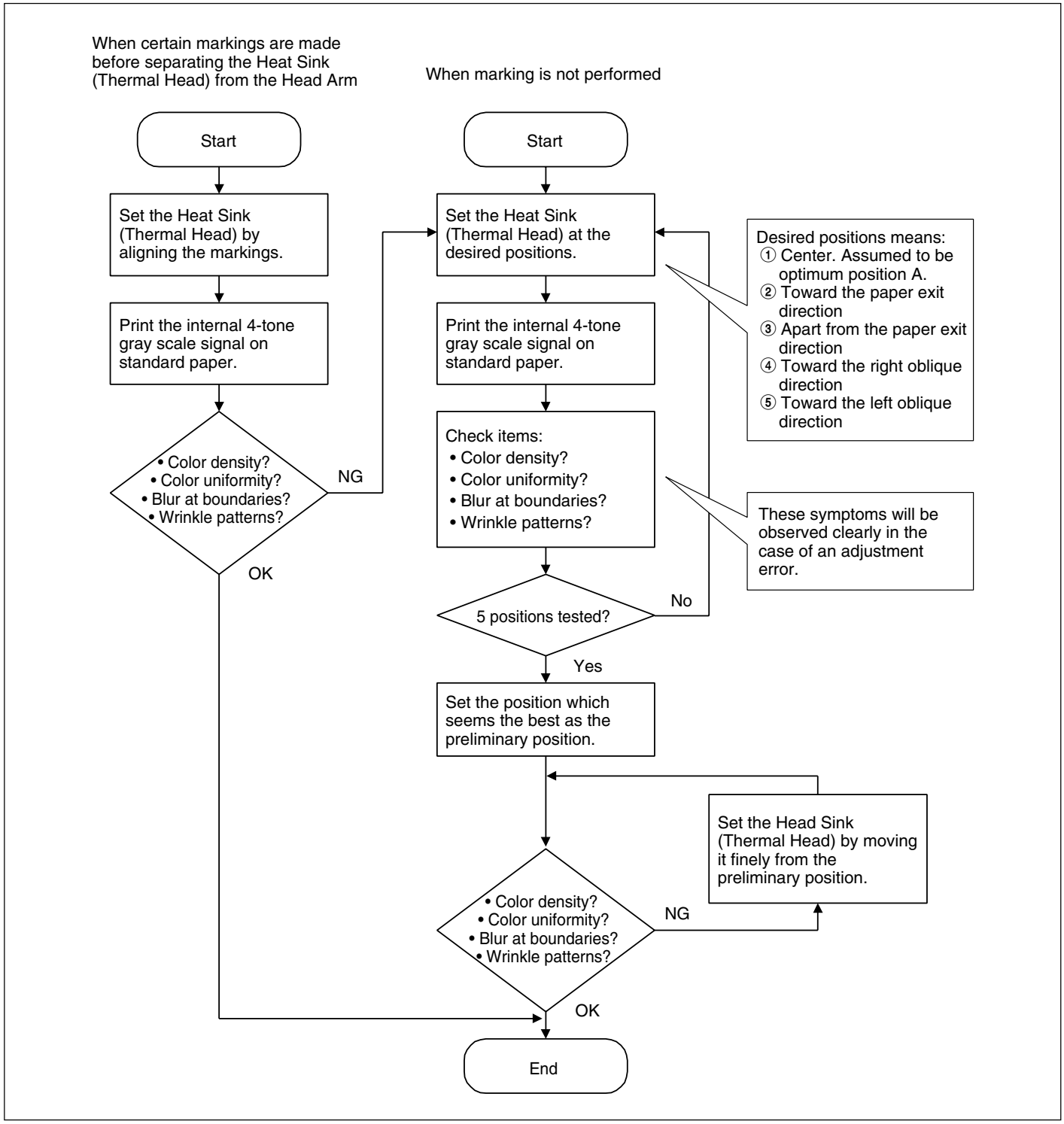

When certain markings are made before separating the Heat Sink (Thermal Head) from the Head Arm
When marking is not performed
Start
Set the Heat Sink (Thermal Head) by aligning the markings.
Print the internal 4-tone gray scale signal on standard paper.
• Color density?
• Color uniformity?
• Blur at boundaries?
• Wrinkle patterns?
NG
OK
Start
Set the Heat Sink (Thermal Head) at the desired positions.
Print the internal 4-tone gray scale signal on standard paper.
Check items:
• Color density?
• Color uniformity?
• Blur at boundaries?
• Wrinkle patterns?
5 positions tested?
No
Yes
Set the position which seems the best as the preliminary position.
Set the Head Sink (Thermal Head) by moving it finely from the preliminary position.
• Color density?
• Color uniformity?
• Blur at boundaries?
• Wrinkle patterns?
NG
OK
End
Desired positions means:
① Center. Assumed to be optimum position A.
② Toward the paper exit direction
③ Apart from the paper exit direction
④ Toward the right oblique direction
⑤ Toward the left oblique direction
These symptoms will be observed clearly in the case of an adjustment error.

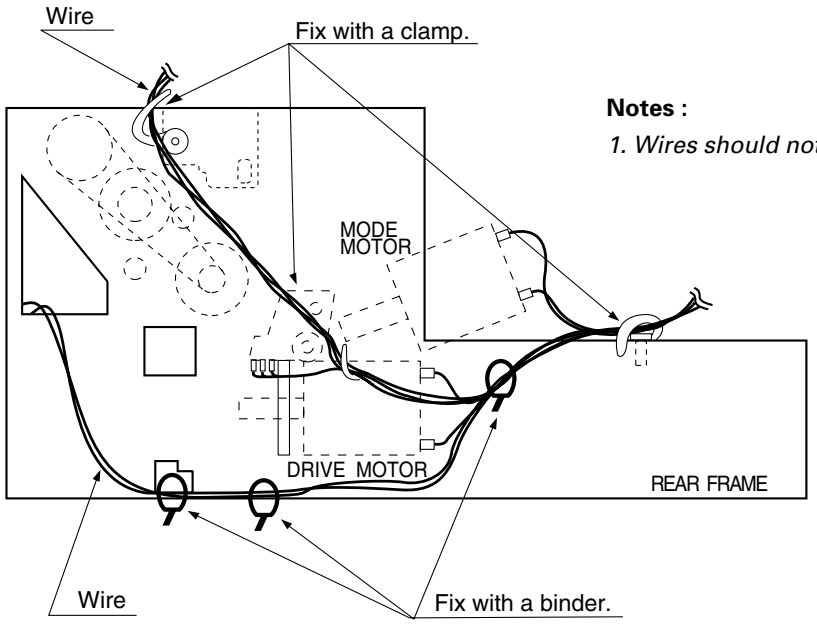
Fig. 2-6-2

The image becomes optimum for judgment of the internal 4-tone gray signal.
To perform the operation quickly, it is recommended to mark the Head Arm and Heat Sink with a felt pen, cutter, dental pick, etc. before separating the Heat Sink from the Head Arm as shown in Fig. 1-3. Since there is a tolerance of ±0.25 mm, the adjustment can be regarded as having been almost completed when this work is done. After the adjustments, be sure to test print by using standard paper and check the results.

Note: *Be careful not to bend the parts (particularly the frames) during assembly or disassembly. Otherwise, normal printing may be impossible even after the adjustments have been done correctly.*

2.7 WIRING TREATMENT METHODS

(REAR VIEW)



Notes :

1. Wires should not extend beyond the board assembly.

Fig. 2-7-1

(RIGHT VIEW)

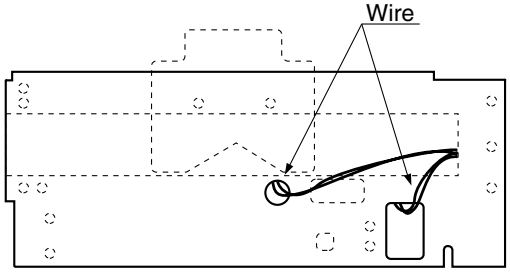


Fig. 2-7-2

Notes :

1. All wires should be clamped without any slack.
2. Make sure that the wires do not touch any drive parts on the Rear Frame, such as gear, pulsar, etc.

(TOP VIEW)

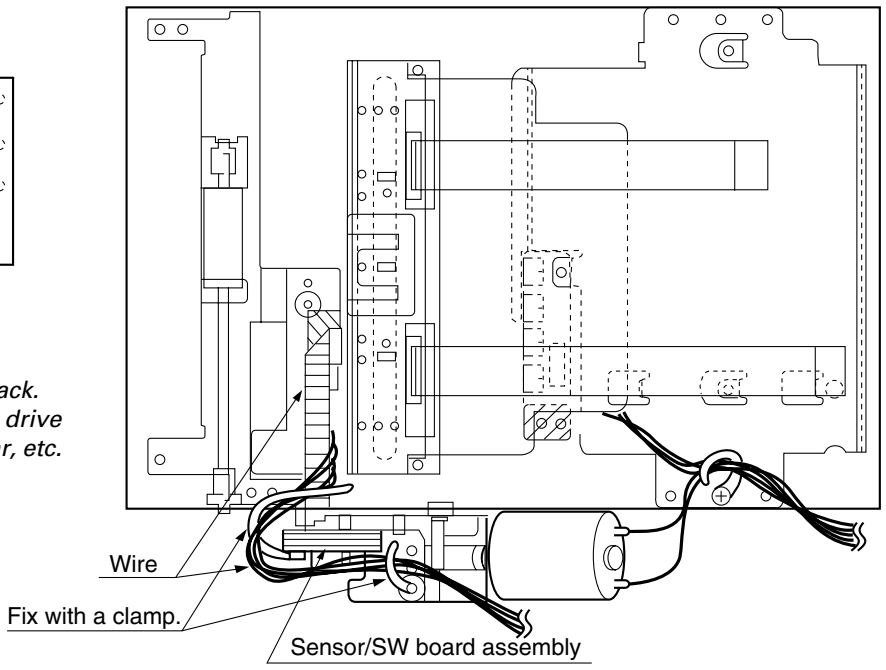


Fig. 2-7-3

Notes :

1. Do not leave any slack on the wire.
2. Wires should be clamped to avoid the occurrence of any slack on them.
3. Wires should be clamped to avoid any excess of slack in them at the head unit side.
4. After inserting the board, bend the wires to prevent them touching the bromide papers when they are printed out.

SECTION 3
ELECTRICAL ADJUSTMENT

3.1 BEFORE ADJUSTMENTS

3.1.1 Precautions

Adjustment items here show those to be performed when the mechanism consumable parts or board assemblies are malfunctioning. However, when servicing the electrical circuits, perform adjustments by referring to the following items.
If a fault occurs in an electrical circuit, be sure to use the measurement instrument as described in the following chapter in order to find the defective locations before actually performing the service, replacement or adjustment. When there is no satisfactory measurement instrument available for the field servicing, do not turn the adjustment VRs, etc. randomly before specifying the defective points.

3.1.2 Equipment Required for Adjustment

① Digital Voltmeter
② Print Paper (PX-K50SFAU)

3.2 POWER SUPPLY CIRCUIT

Note: *When not specified, measurement points and adjustment points are located on the Switch Regulator Board.*

3.2.1 SWD 24V Output Power Supply

Signal	• No signal
Mode	• E-E
Equipment	• Digital voltmeter
Measurement point	• TP1301 (24 V)
Adjustment point	• VR1301
Specification	• Label-indicated voltage ± 0.05 V

1) Connect a digital voltmeter to TP1301 (24 V).
2) Adjust VR1301 to read the voltage indicated by the label at the Ink Set insertion inlet (attached on the head).
3) Always check this item after having replaced the Head assembly, and adjust as required.

3.3 PRINT TEST

The built-in test patterns can be printed for use in print condition checking.
The TPs (Test Pins) go to "L" level when they are open.

3.3.1 Test Procedure

Set TP180 to the "H" level (3.3 V) to start printing.

NOTE: • *If TP180 is fixed at "H" level, continuous printing occurs.*

3.3.2 Test Patterns

Six kinds of test patterns can be printed according to the combination of TP3, TP4 and TP5 (See Table 3-3-1.).

TP3	TP4	TP5	Test Pattern
L	L	L	Black solid
L	L	H	50% gray
L	H	L	4-tone gray scale A
L	H	H	4-tone gray scale B
H	L	L	50% gray with frame
H	L	H	9 horizontal steps

Table 3-3-1

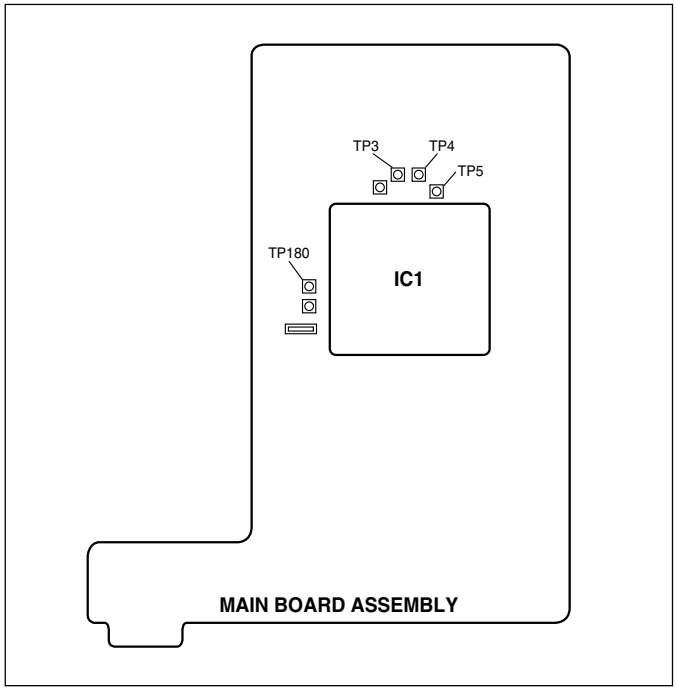


Fig. 3-3-1

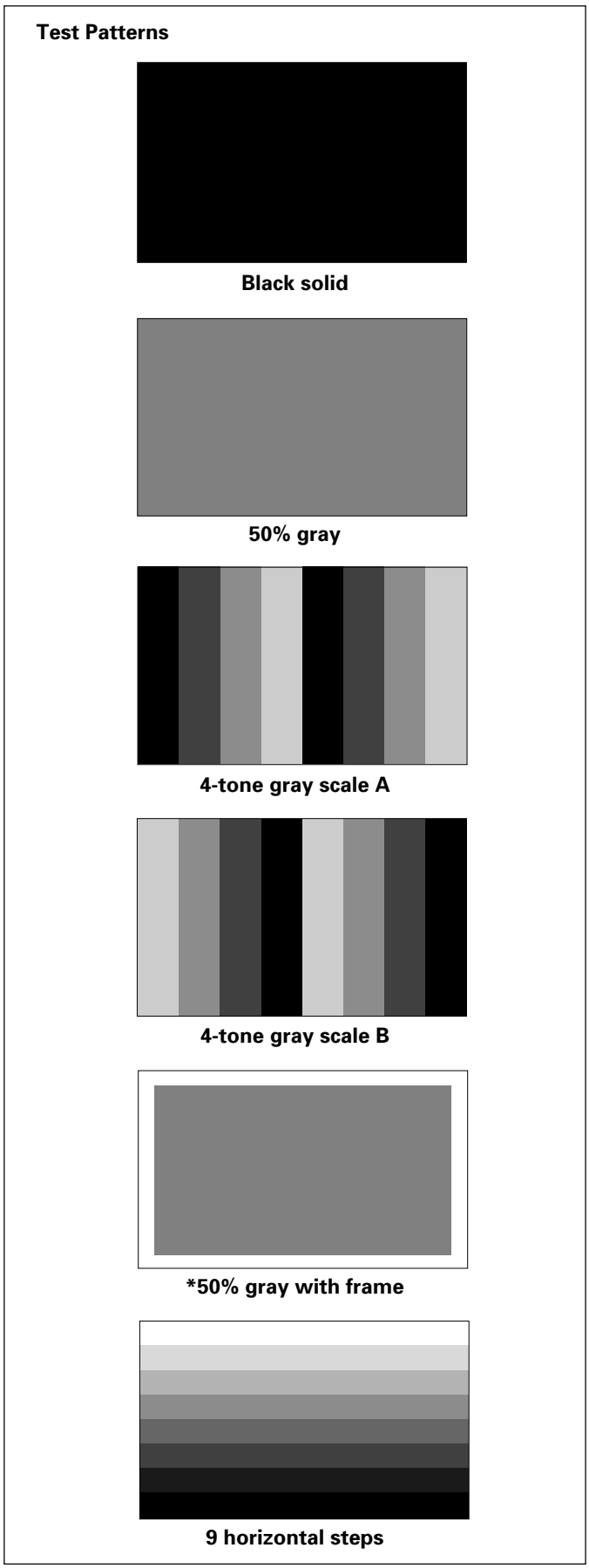


Fig. 3-3-2

* Seal printing only.

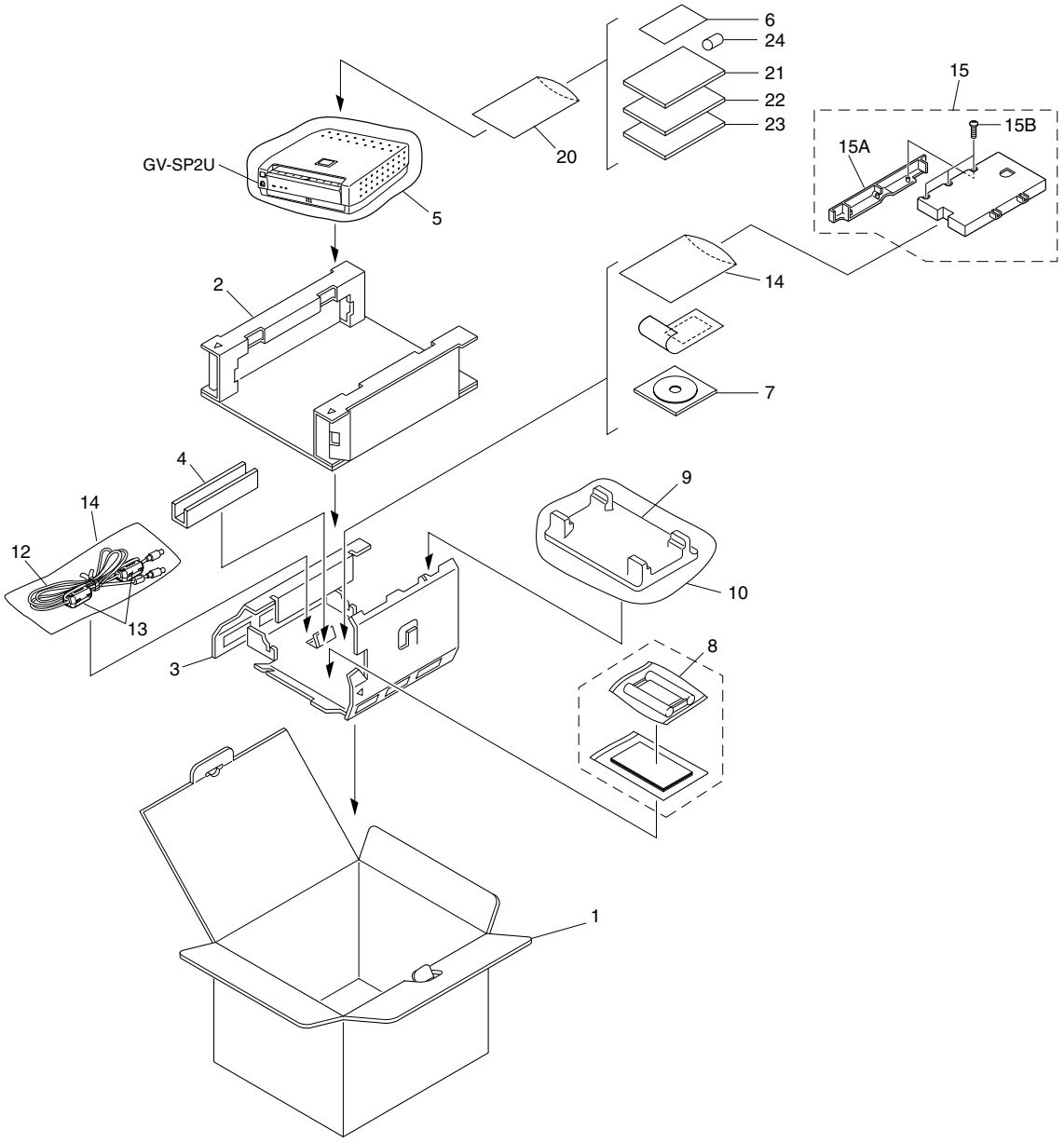
SECTION 5
PARTS LIST

SAFETY PRECAUTION

Parts identified by the ⚠ symbol are critical for safety. Replace only with specified part numbers.

5.1 PACKING AND ACCESSORY ASSEMBLY <M1>

The instruction manual to be provided with this product will differ according to the destination.



#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION

****

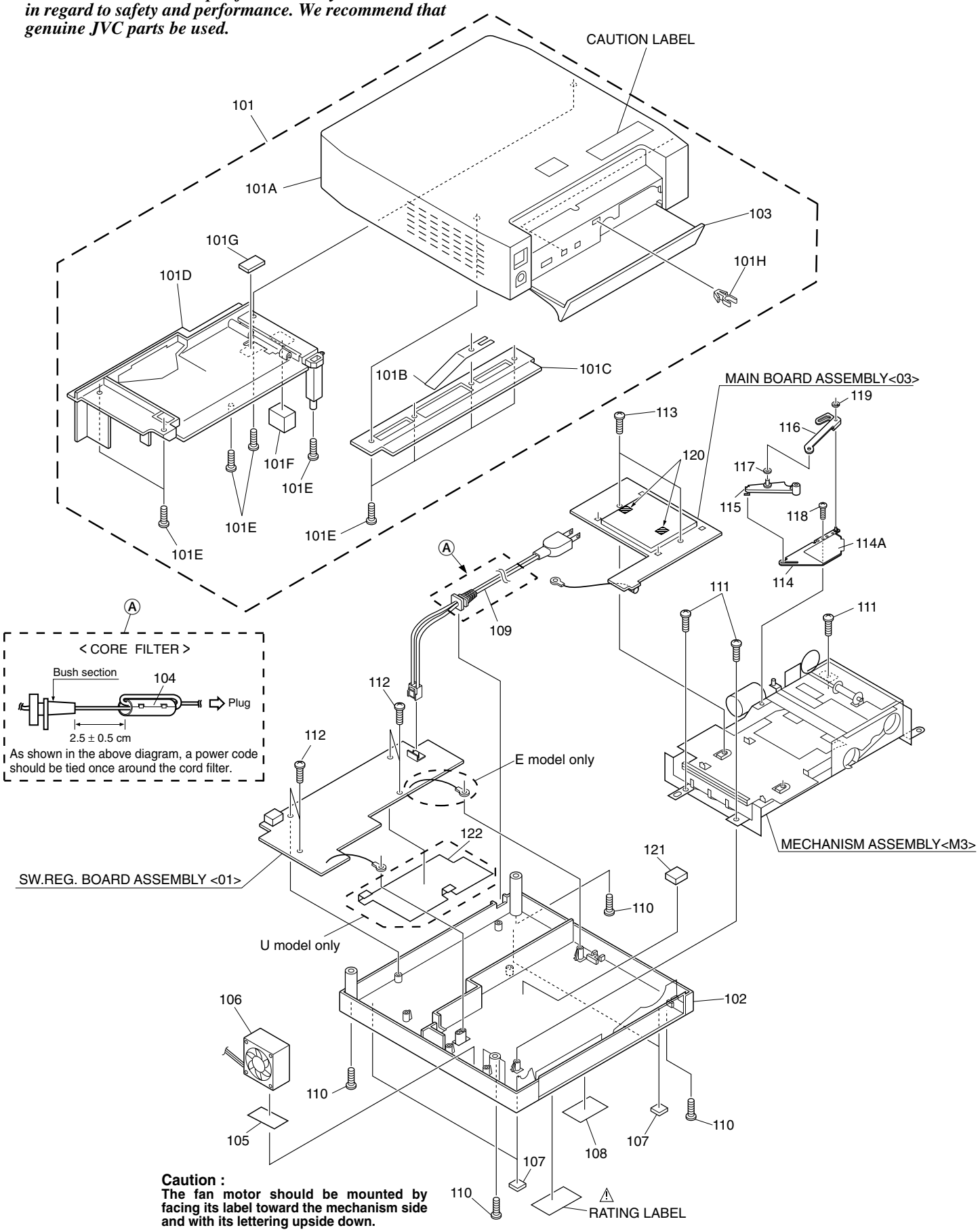
PACKING AND ACCESSORY ASSEMBLY <M1>

		1	LY31473-002C	PACKING CASE
		2	LY31718-001A	CUSHION(A)
		3	LY31719-001A	CUSHION(B)
		4	LY42395-001A	CUSHION(C)
		5	PQM30021-101	POLY BAG
		6	BT-51020-2	REGIST.CARD
		7	LY31074-003A	CD ROM ASSY
		8	–	PAPER & INK KIT
		9	LY31661-001A	STAND ASSEMBLY
		10	QPA01803505P	POLY BAG
		12	QAM0257-001	PRINTER CABLE
		13	QQR0491-002	CORE FILTER X2
		14	QPA02003005P	POLY BAG
		15	LY31477-002D	CASSETTE ASSEMBLY
		15A	LY20503-003A	COVER(TRAY)
		15B	QYTDSF2608Z	SCREW X3
		20	QPC02503515P	POLY BAG
	⚠	21	LYT0524-001A	INST.BOOK(EN)
	⚠	22	LYT0524-002A	INST.BOOK(FR)
	⚠	23	LYT0524-003A	INST.BOOK(SP)
		24	QQR0490-002	CORE FILTER FOR USB CABLE

5.2 CABINET AND CHASSIS ASSEMBLY <M2>

BEWARE OF BOGUS PARTS

Parts that do not meet specifications may cause trouble in regard to safety and performance. We recommend that genuine JVC parts be used.



Caution :
The fan motor should be mounted by facing its label toward the mechanism side and with its lettering upside down.

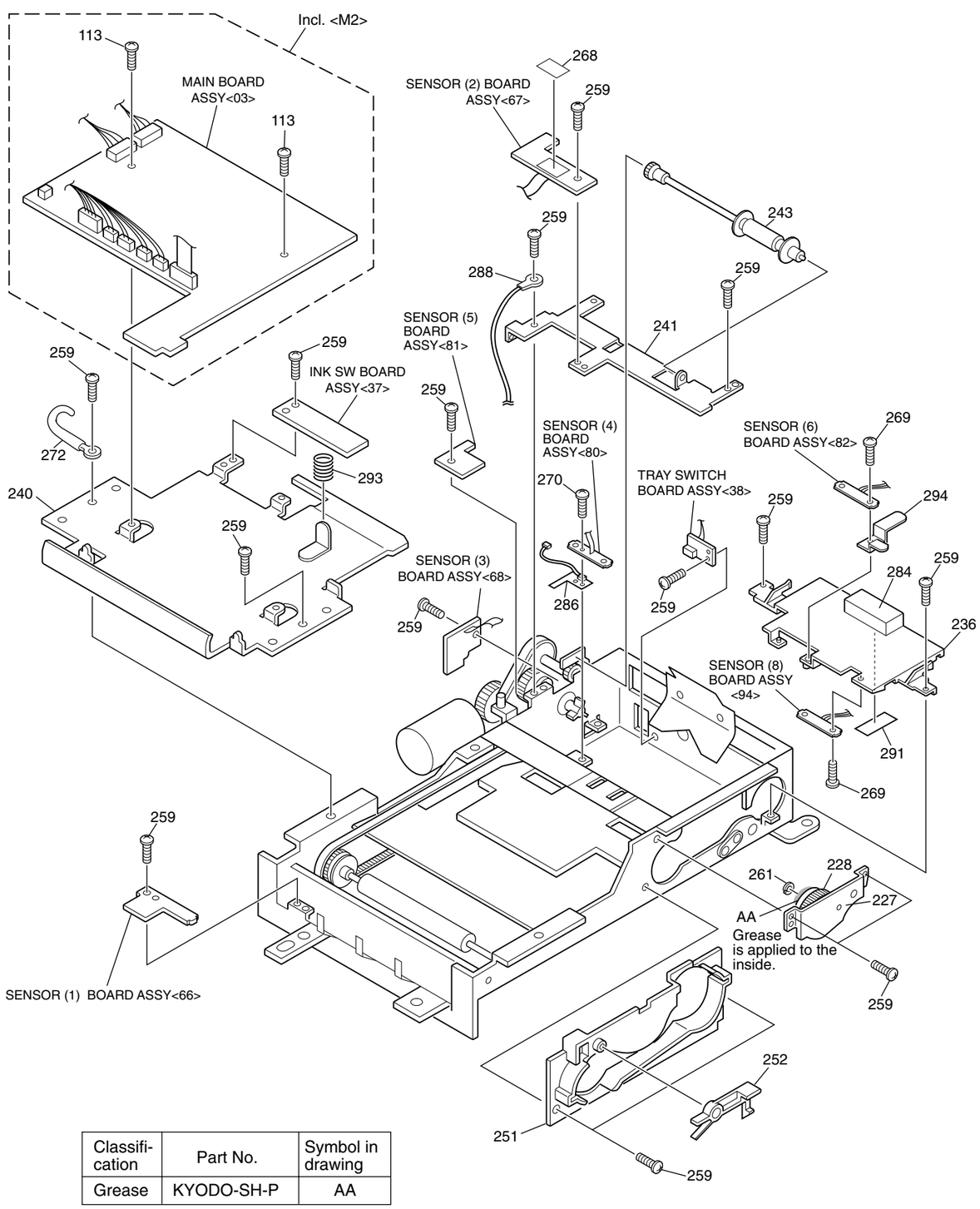
#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION

****

CABINET AND CHASSIS ASSEMBLY <M2>

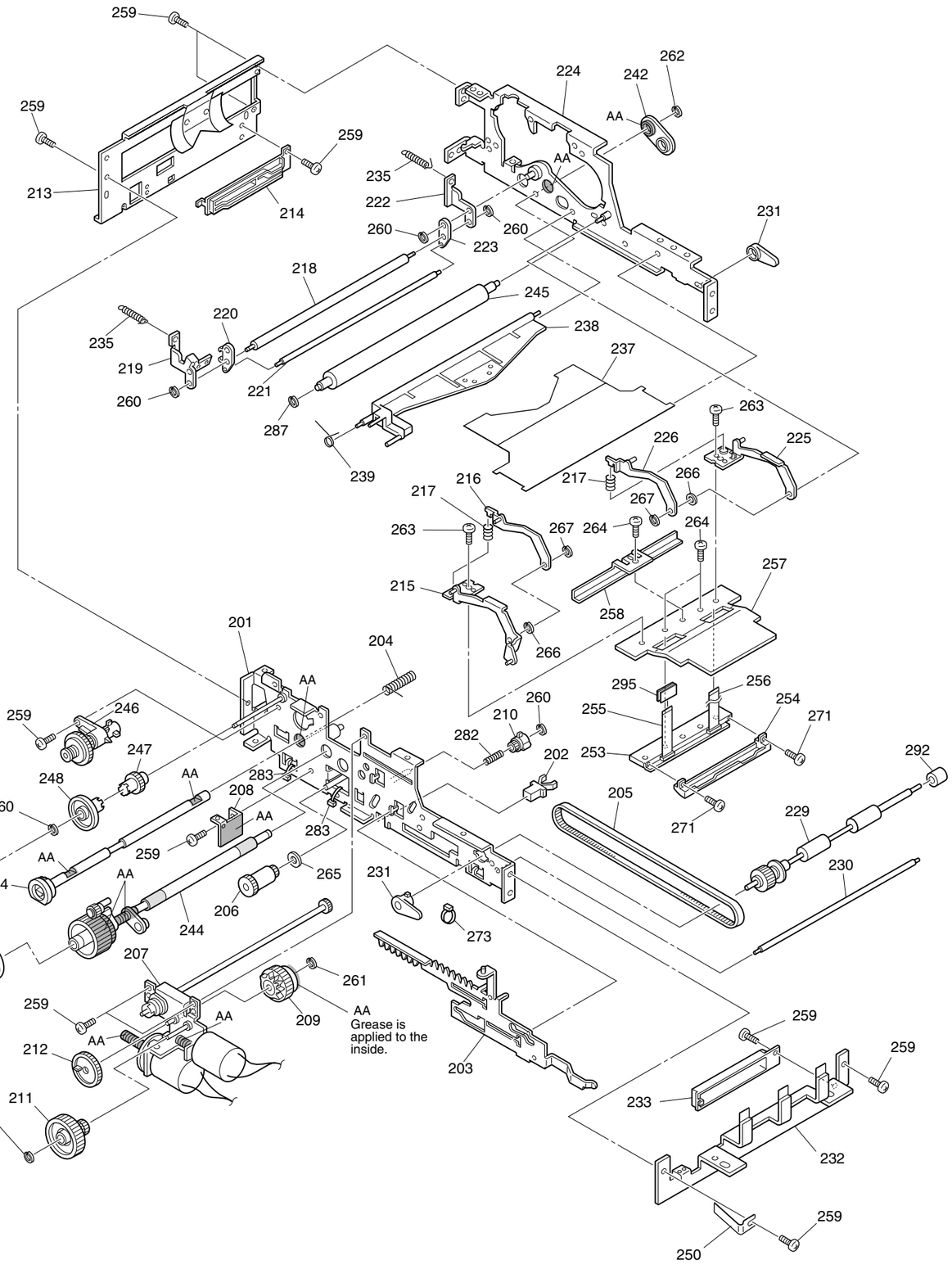
		101	LY20500-004A	UPPER CASE ASSEMBLY
	⚠	101A	LY10201-004A	UPPER CASE
		101B	LY31400-001A	PAPER GUIDE
		101C	LY20501-001A	BRACKET
		101D	LY10202-001B	UPPER PLATE
		101E	QYSLSF1740D	SCREW
		101F	LY42149-001A	SPACER
		101G	LY42213-001A	STOPPER
		101H	PU60109	CATCHER
	⚠	102	LY10203-003A	LOWER CASE
		103	LY20502-004A	DOOR
		104	QQR0491-002	CORE FILTER
		105	LY42222-001A	SPACER(C)
		106	QAR0121-001	FAN MOTOR
		107	PQ43013	FOOT
		108	LY41849-001B	PLATE
	⚠	109	QMPA250-170-K2	POWER CORD
		110	QYTDSF3008Z	SCREW FOR CASE
		111	QYTDSF3008Z	SCREW FOR MECHA
		112	QYTDSF3008Z	SCREW FOR SW REG
		113	QYSDST3006Z	SCREW FOR MAIN PWB
		114	LY41897-001A	PL BASE SA
		114A	LY42201-001A	GUIDE SHEET
		115	LY41753-001A	PUSH LEVER(1)
		116	LY41784-001A	PUSH LEVER(2)
		117	LY42166-001A	SPACER
		118	QYSDST3006Z	SCREW
		119	PQM30017-47	SLIT WASHER
		120	PU59915-105	#500SPACER0.01
		121	LY42225-001A	SPACER
		122	LY31766-001A	SHIELD COVER

5.3 MECHANISM ASSEMBLY <M3>



Classifi-cation	Part No.	Symbol in drawing
Grease	KYODO-SH-P	AA

NOTE: In this section of the diagram, the locations where grease should be applied are indicated by "**AA**".
When checking or performing maintenance on the GV-SP2U, always check that grease has been applied to the parts indicated by "**AA**" on the diagram.



#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION
**********				

MECHANISM ASSEMBLY <M3>

		201	LY31429-001B	REAR FRAME SA
		202	PEME0960	PUSH OPEN UNIT
		203	LY41798-001B	CTL PLATE SA
		204	LY41885-001A	COMPRESSION SPRING
		205	190TN15-2.0K	BELT
		206	LY41744-001A	PICK UP GEAR
		207	LY31478-001C	MOTOR ASSY
		208	LY41882-001B	WORM BRACKET
		209	LY41762-001A	HEAD CAM(R)
		210	LY41773-001B	REEL DISK (SUPPLY)
		211	LY41748-001A	HEAD GEAR(1)
		212	LY41749-001A	HEAD GEAR(2)
		213	LY31479-001C	SIDE FRAME(R) SA
		214	LY41774-001B	CASSETTE RAIL(R)
		215	LY41811-001A	HEAD ARM(R) SA
		216	LY41810-001A	HEAD ARM(R2) SA
		217	LY31485-003A	COMPRESSION SPRING
		218	LY42112-001B	PINCH ROLLER
		219	LY41777-001A	PINCH ARM(R)
		220	LY41738-001A	PINCH SLEEVE(R)
		221	LY41807-001A	FM GUIDE ROLLER
		222	LY41778-001A	PINCH ARM(F)
		223	LY41739-001A	PINCH SLEEVE(F)
		224	LY31432-001B	FRONT FRAME SA
		225	LY41819-001A	HEAD ARM(F) SA
		226	LY41812-001A	HEAD ARM(F2) SA
		227	LY41813-001A	SUB BKT SA
		228	LY41763-001A	HEAD CAM(F)
		229	LY41887-002A	FEED GEAR ASSY
		230	LY41805-001B	FEED GUIDE SHAFT
		231	LY41737-001A	SLEEVE
		232	LY41903-001A	SIDE FRAME(L) SA
		233	LY41775-001A	CASSETTE RAIL(L)
		234	LY41888-002A	PINCH SHAFT SA
		235	LY31486-002A	TENSION SPRING
		236	LY20505-001D	SENSOR BASE
		238	LY31431-001B	PICK UP ASSY
		239	LY41804-001A	LOAD SPRING
		240	LY31417-001B	MAIN FRAME
		241	LY31415-001A	UPPER FRAME
		242	LY41736-001A	SLEEVE(R/P)
		243	LY41886-001B	OUT ROLLER ASSY
		244	LY31430-001A	RGST ROLLER SA
		245	LY41788-001A	PLATEN ROLLER SA
		246	LY41801-001B	CLUTCH ASSY
		247	LY41740-001A	OUT GEAR(1)
		248	LY41742-001A	OUT GEAR(3)
		249	79TN15-2.0K	BELT
		250	LY41880-001B	SLIDE SPRING
		251	LY20512-001B	INK GUIDE
		252	LY41752-001A	LOCK LEVER
		253	QAH0033-001	THERMAL HEAD
		254	LY31396-001A	HEAD COVER
		255	QUQ112-1020CG	FFC WIRE TO SW REG CN1301
		256	QUQ210-1615CC	FFC WIRE TO MAIN CN7
		257	LY31412-001B	HEAT SINK
		258	LY41779-001C	FILM GUIDE
		259	QYSDST2604Z	SCREW
		260	PQM30017-47	SLIT WASHER
		261	PQM30017-38	SLIT WASHER
		262	PQM30017-12	SLIT WASHER
		263	QYSWSP2604Z	SCREW
		264	QYSDSP2606Z	SCREW
		265	LY30017-015A	SPACER-B
		266	PQM30018-7	SPACER
		267	PQM30017-4	SLIT WASHER
		268	PU59915-107	#500SPACER0.007
		269	QYSPSN2035Z	SCREW
		270	QYSPSP1730Z	SCREW
		271	QYSPSP2004Z	SCREW
		272	PU49485-4	WIRE CLAMP
		273	PU43192-4	BINDER X4
		282	LY31485-006A	COMPRESSION SPRING
		283	PU49485-3	WIRE CLAMP X2
		284	LY42149-001A	SPACER
		286	LY42237-001A	EARTH BKT
		287	QYWFM469025A	WASHER
		288	QUB450-05VLWL	GND WIRE FOR EARTH PLATE
		292	LY42376-001A	GUIDE ROLLER
		293	LY30002-045A	COMPRESSION SPRING
		294	LY42402-001A	STOPPER BKT
		295	QQR1120-001	FERRITE CORE FOR PRINTHEAD

5.4 ELECTRICAL PARTS LIST

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
**********					
			SW.REGULATOR BOARD ASSEMBLY <01>		
		PW	YB10261C-06	SW.REGULATOR BOARD ASSEMBLY	
		OT1	QYTDST3010Z	SCREW	
		OT2	QYTDST3008Z	SCREW	
		IC1101	STR-F6624	IC	
		IC1301	L5431	IC	
		IC1303	PQ1CG21H2FZ	IC	
		Q1301	2SD1819A/RS/-X	TRANSISTOR	
			or 2SC4081/RS/-X	TRANSISTOR	
			or 2SC4081/R/-X	TRANSISTOR	
		Q1304	2SA1567/OY/	TRANSISTOR	
		Q1305	DTA114EU	TRANSISTOR	
			or RN2302	TRANSISTOR	
			or UN5111	TRANSISTOR	
		Q1306	DTC143ZU	TRANSISTOR	
		Q1307	2SD2375/QP/	TRANSISTOR	
		Q1308	2SD2375/QP/	TRANSISTOR	
		Q1309	2SC4081/S/-X	TRANSISTOR	
		D1001	RBV-404	DIODE	
		D1101	AU01	FR DIODE	
			or ERA18-04-T2	FR DIODE	
			or PG104RS	FR DIODE	
			or 1SR153-400-T2	FR DIODE	
			or 10ELS4	FR DIODE	
		D1102	AU01	FR DIODE	
			or ERA18-04-T2	FR DIODE	
			or PG104RS	FR DIODE	
			or 1SR153-400-T2	FR DIODE	
			or 10ELS4	FR DIODE	
		D1103	ERA18-02-T2	FR DIODE	
			or PG104RS	FR DIODE	
			or 1SR153-400-T2	FR DIODE	
			or 10ELS2	FR DIODE	
			or AU01Z	FR DIODE	
		D1104	ERA18-02-T2	FR DIODE	
			or AU01Z	FR DIODE	
			or PG104RS	FR DIODE	
			or 1SR153-400-T2	FR DIODE	
			or 10ELS2	FR DIODE	
		D1105	ERA18-02-T2	FR DIODE	
			or PG104RS	FR DIODE	
			or AU01Z	FR DIODE	
			or 1SR153-400-T2	FR DIODE	
			or 10ELS2	FR DIODE	
		D1107	1SS133	DIODE	
		D1201	FML-22S	DIODE	
		D1202	RL2Z-LFB2	FR DIODE	
		D1203	FMB-24	BARRIER DIODE	
			or MA7D49	SB DIODE	
			or YG801C04	SB DIODE	
		D1302	RD13ES/B1/-T2	ZENER DIODE	
			or MTZJ13A	ZENER DIODE	
		D1303	RD20ES/B1/-T2	ZENER DIODE	
			or MTZJ20A	ZENER DIODE	
		D1304	1SS133	DIODE	
		D1307	1SS133	DIODE	
		R1101	QRG02GJ-683	OMF RESISTOR	68kΩ,2W
		R1103	QRG02GJ-683	OMF RESISTOR	68kΩ,2W

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		R1104	QRE141J-100Y	RESISTOR	10Ω,1/4W
		R1105	NRSA02J-152X	MG RESISTOR	1.5kΩ,1/10W
		R1106	QRE141J-681Y	RESISTOR	680Ω,1/4W
		R1107	QRZ0192-R10X	MF RESISTOR	0.1Ω,1W
		R1108	NRSA02J-332X	MG RESISTOR	3.3kΩ,1/10W
		R1109	NRSA02J-182X	MG RESISTOR	1.8kΩ,1/10W
		R1301	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
		R1302	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R1303	NRSA02J-224X	MG RESISTOR	220kΩ,1/10W
		R1304	NRSA02J-122X	MG RESISTOR	1.2kΩ,1/10W
		R1305	NRVA02D-123X	CMF RESISTOR	12kΩ,1/10W
		R1306	NRVA02D-182X	CMF RESISTOR	1.8kΩ,1/10W
		R1311	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R1312	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R1313	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R1314	QRE141J-332Y	RESISTOR	3.3kΩ,1/4W
		R1319	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R1320	QRL02DJ-101X	OMF RESISTOR	100Ω,2W
		R1321	QRL02DJ-101X	OMF RESISTOR	100Ω,2W
		R1322	QRL02DJ-101X	OMF RESISTOR	100Ω,2W
		R1323	QRE141J-222Y	RESISTOR	2.2kΩ,1/4W
		R1324	QRE141J-152Y	RESISTOR	1.5kΩ,1/4W
		R1326	QRE141J-222Y	RESISTOR	2.2kΩ,1/4W
		R1328	NRSA02J-122X	MG RESISTOR	1.2kΩ,1/10W
		R1329	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R1330	NRSA02J-562X	MG RESISTOR	5.6kΩ,1/10W
		R1331	QRE141J-562Y	RESISTOR	5.6kΩ,1/4W
		R1332	NRSA02J-332X	MG RESISTOR	3.3kΩ,1/10W
		R1333	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R1337	QRL02DJ-101X	OMF RESISTOR	100Ω,2W
		R1338	NRSA02J-151X	MG RESISTOR	150Ω,1/10W
		R1340	QRE141J-682Y	RESISTOR	6.8kΩ,1/4W
		VR1301	QVP0039-472Z	TRIM RESISTOR,SWD 24V	
	⚠	C1001	QFZ9073-683	F CAPACITOR	0.068μF
	⚠	C1002	QFZ9051-333	F CAPACITOR	0.033μF,250V
	⚠	C1004	QCZ9071-471	CAPACITOR	470pF,400V
	⚠	C1006	QCZ9071-471	CAPACITOR	470pF,400V
	⚠	C1008	QCZ9071-222	CAPACITOR	0.0022μF,400V
		C1009	QEZ0380-337	E CAPACITOR	330μF
		C1101	QCZ0212-472	CAPACITOR	0.0047μF,1kV
		C1103	QEMU1EM-566	E CAPACITOR	56μF,25V
		C1104	QCZ0136-152Z	CAPACITOR	0.0015μF,1kV
		C1105	QFN31HJ-471	F CAPACITOR	470pF,50V
		C1106	QFN31HJ-471	F CAPACITOR	470pF,50V
		C1107	NCF21HZ-223X	CAPACITOR	0.022μF,50V
		C1201	QEMT1VM-188	E CAPACITOR	1800μF,35V
		C1202	QEMT1EM-567	E CAPACITOR	560μF,25V
		C1203	QEMT1AM-128	E CAPACITOR	1200μF,10V
		C1302	QFVF1HJ-104Z	F CAPACITOR	0.1μF,50V
		C1309	QETN1CM-107	E CAPACITOR	100μF,16V
		C1310	QETC1HM-107	E CAPACITOR	100μF,50V
		L1302	QQL31AK-101Z	COIL	100μH
		K1102	QQR0678-001Z	FERRATE BEADS	
	⚠	PC1101	PS2561L-1(WL)	PHOTO COUPLER	
	⚠		or ON3171/R/	IC(PHOTO COUPLER)	
	⚠		or PC123F2	PHOTO COUPLER	
	⚠	PC1102	PS2561L-1(WL)	PH COUPLER	
	⚠		or PC123F2	POTO COUPLER	
	⚠		or ON3171/R/	IC(PHOTO COUPLER)	
	⚠	T1001	QQS0055-001	SW TRANSFOMER	
		HS1	LP40515-001A	HEAT SINK,FOR D1201 D1203	

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		HS2	LP40515-001A	HEAT SINK,FOR Q1307	
		HS3	LY41879-001A	HEAT SINK,FOR IC1101	
		WR1	QJJ001-080700	WIRE TO MAIN PWB CN8	
		FC1001	QNG0006-001Z	FUSE CLIP	
		FC1002	QNG0006-001Z	FUSE CLIP	
		J1301	QUB130-05A4HM	GND WIRE(1),WR1301	
		J1401	QNZ0433-001	USB CONNECTOR	
	⚠	LF1001	PELN1204-01-01	LINE FILTER	
	⚠	LF1002	QQR1101-001	LINE FILTER	
		CN1001	QGA7901C3-02	CONNECTOR,POWER CORD	
		CN1301	QGF1207C1-10	FPC CONNECTOR,(1-2)HEAD	
		CN1302	QGA2001C1-08	CONNECTOR,(1-8)MAIN PWB	
		CN1401	QGA2001C1-04	CONNECTOR,(1-4)MAIN PWB	
	⚠	F1001	QMF51U1-3R15-J1	FUSE	3.15A

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MAIN BOARD ASSEMBLY <03>

	PW	YB10270B	MAIN BOARD ASSEMBLY
	WR1	QUB130-05A2HM	WIRE,GND J1
	SD1	LY31422-001A	SHIELD FRAME
	SD2	LY31423-001A	SHIELD COVER
	SD3	LY31424-001A	SHIELD PLATE
	IC1	JCY0134-2	IC
	IC2	S-80930ANMP-W	IC
	IC3	MBV400BC90PTA00	IC(MICRO C ROM)
	IC4	TC7SHU04FU	IC(DIGITAL)
	IC5	TC7SH04FU	IC(DIGITAL)
	IC8	TC7SH08FU	IC(DIGITAL)
	IC201	JCY0122	IC
	IC202	TC74VHC14FT	IC(DIGITAL)
	IC204	TC7SH08FU	IC(DIGITAL)
	IC301	TA7291S	IC
	IC302	TA7291S	IC
	IC303	BA10393F	IC
	IC304	BA10393F	IC
	IC401	KM416S4030CT-GH	IC
	IC402	PDIUSBD12PW	IC
	IC404	TC74VHC00FT	IC
	IC405	TC7SH04FU	IC(DIGITAL)
	Q1	DTC143ZU	TRANSISTOR
	Q2	DTC143ZU	TRANSISTOR
	Q4	DTC124EU	TRANSISTOR
	Q5	DTC124EU	TRANSISTOR
	Q6	DTC143ZU	TRANSISTOR
	Q7	2SC4081/QR/-X	TRANSISTOR
	Q8	DTC124EU	TRANSISTOR
	Q9	DTC143ZU	TRANSISTOR
	Q201	DTC143ZU	TRANSISTOR
	Q202	DTC143ZU	TRANSISTOR
	Q301	DTC124EU	TRANSISTOR
	Q302	DTC124EU	TRANSISTOR
	Q303	DTC124EU	TRANSISTOR
	Q304	DTC124EU	TRANSISTOR
	Q305	DTC124EU	TRANSISTOR
	Q306	2SA1577/RS/-X	TRANSISTOR
	Q307	DTC143ZU	TRANSISTOR
	Q308	2SB1308/QR/-X	TRANSISTOR
	Q309	DTC143ZU	TRANSISTOR
	Q312	2SA1576A/QR/-X	TRANSISTOR
	Q313	DTC143ZU	TRANSISTOR
	D1	SML-110LT-X	LE DIODE,POWER
	D2	SML-110MT-X	LE DIODE,ERROR
	D3	SML-110MT-X	LE DIODE,PRINT
	D301	SFPB-72-W	SB DIODE
	D303	LN57-/LF/VI	LE DIODE
	R1	NRSA63J-102X	MG RESISTOR 1kΩ,1/16W
	R2	NRSA63J-103X	MG RESISTOR 10kΩ,1/16W
	R3	NCF31CZ-104X	CAPACITOR 0.1μF,16V
	R10	NRSA63J-103X	MG RESISTOR 10kΩ,1/16W
	R11	NRSA63J-103X	MG RESISTOR 10kΩ,1/16W
	R31	NRSA63J-0R0X	MG RESISTOR 0Ω,1/16W
	R45	NRSA63J-103X	MG RESISTOR 10kΩ,1/16W
	R48	NRSA63J-103X	MG RESISTOR 10kΩ,1/16W
	R56	NRSA63J-103X	MG RESISTOR 10kΩ,1/16W
	R57	NRSA63J-103X	MG RESISTOR 10kΩ,1/16W
	R58	NRSA63J-103X	MG RESISTOR 10kΩ,1/16W
	R59	NRSA63J-103X	MG RESISTOR 10kΩ,1/16W
	R60	NRSA63J-103X	MG RESISTOR 10kΩ,1/16W
	R63	NRSA63J-103X	MG RESISTOR 10kΩ,1/16W
	R65	NRSA63J-103X	MG RESISTOR 10kΩ,1/16W
	R66	NRSA63J-103X	MG RESISTOR 10kΩ,1/16W
	R67	NRSA63J-0R0X	MG RESISTOR 0Ω,1/16W
	R69	NRSA63J-103X	MG RESISTOR 10kΩ,1/16W
	R70	NRSA63J-223X	MG RESISTOR 22kΩ,1/16W
	R71	NRSA63J-104X	MG RESISTOR 100kΩ,1/16W
	R72	NRSA63J-471X	MG RESISTOR 470Ω,1/16W
	R73	NRSA63J-471X	MG RESISTOR 470Ω,1/16W
	R74	NRSA63J-471X	MG RESISTOR 470Ω,1/16W
	R75	NRSA63J-332X	MG RESISTOR 3.3kΩ,1/16W
	R76	NRSA63J-471X	MG RESISTOR 470Ω,1/16W
	R77	NRSA63J-101X	MG RESISTOR 100Ω,1/16W
	R78	NRSA63J-472X	MG RESISTOR 4.7kΩ,1/16W
	R79	NRSA63J-101X	MG RESISTOR 100Ω,1/16W
	R80	NRSA63J-223X	MG RESISTOR 22kΩ,1/16W
	R81	NRSA63J-225X	MG RESISTOR 2.2MΩ,1/16W
	R82	NRSA63J-332X	MG RESISTOR 3.3kΩ,1/16W
	R83	NRSA63J-332X	MG RESISTOR 3.3kΩ,1/16W
	R84	NRSA63J-0R0X	MG RESISTOR 0Ω,1/16W
	R85	NRSA63J-0R0X	MG RESISTOR 0Ω,1/16W
	R86	NRSA63J-0R0X	MG RESISTOR 0Ω,1/16W
	R87	NRSA63J-0R0X	MG RESISTOR 0Ω,1/16W
	R88	NRSA63J-0R0X	MG RESISTOR 0Ω,1/16W
	R89	NRSA63J-0R0X	MG RESISTOR 0Ω,1/16W
	R90	NRSA63J-0R0X	MG RESISTOR 0Ω,1/16W
	R96	NRSA63J-101X	MG RESISTOR 100Ω,1/16W
	R98	NRSA63J-103X	MG RESISTOR 10kΩ,1/16W
	R99	NRSA63J-103X	MG RESISTOR 10kΩ,1/16W
	R108	NRSA63J-0R0X	MG RESISTOR 0Ω,1/16W
	R109	NRSA63J-103X	MG RESISTOR 10kΩ,1/16W
	R110	NRSA63J-0R0X	MG RESISTOR 0Ω,1/16W
	R111	NRSA63J-103X	MG RESISTOR 10kΩ,1/16W
	R112	NCF31CZ-104X	CAPACITOR 0.1μF,16V
	R114	NRSA63J-103X	MG RESISTOR 10kΩ,1/16W
	R115	NRSA63J-332X	MG RESISTOR 3.3kΩ,1/16W
	R201	NRSA63J-103X	MG RESISTOR 10kΩ,1/16W
	R202	NRSA63J-103X	MG RESISTOR 10kΩ,1/16W
	R203	NRSA63J-103X	MG RESISTOR 10kΩ,1/16W
	R204	NRSA63J-101X	MG RESISTOR 100Ω,1/16W

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		R205	NRSA63J-472X	MG RESISTOR	4.7kΩ,1/16W
		R206	NRSA63J-472X	MG RESISTOR	4.7kΩ,1/16W
		R207	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R208	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
		R209	NRSA63J-223X	MG RESISTOR	22kΩ,1/16W
		R211	NRSA63J-223X	MG RESISTOR	22kΩ,1/16W
		R216	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
		R217	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
		R218	NRSA63J-100X	MG RESISTOR	10Ω,1/16W
		R219	NRSA63J-223X	MG RESISTOR	22kΩ,1/16W
		R221	NRSA63J-223X	MG RESISTOR	22kΩ,1/16W
		R223	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R224	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R225	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R301	NRSA63J-223X	MG RESISTOR	22kΩ,1/16W
		R302	NRSA63J-223X	MG RESISTOR	22kΩ,1/16W
		R303	NRSA63J-472X	MG RESISTOR	4.7kΩ,1/16W
		R304	NRSA63J-473X	MG RESISTOR	47kΩ,1/16W
		R305	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R306	NRSA63J-223X	MG RESISTOR	22kΩ,1/16W
		R307	NRSA63J-223X	MG RESISTOR	22kΩ,1/16W
		R308	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R311	NRSA63J-473X	MG RESISTOR	47kΩ,1/16W
		R312	NRSA63J-473X	MG RESISTOR	47kΩ,1/16W
		R313	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R318	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
		R320	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
		R321	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
		R322	NRSA63J-273X	MG RESISTOR	27kΩ,1/16W
		R323	NRSA63J-621X	MG RESISTOR	620Ω,1/16W
		R324	NRSA63J-153X	MG RESISTOR	15kΩ,1/16W
		R325	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R327	NRSA63J-680X	MG RESISTOR	68Ω,1/16W
		R328	NRSA63J-201X	MG RESISTOR	200Ω,1/16W
		R329	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
		R330	NRSA63J-151X	MG RESISTOR	150Ω,1/16W
		R331	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
		R332	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R333	NRSA63J-562X	MG RESISTOR	5.6kΩ,1/16W
		R334	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R335	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R336	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R337	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R338	NRSA63J-334X	MG RESISTOR	330kΩ,1/16W
		R339	NRSA63J-472X	MG RESISTOR	4.7kΩ,1/16W
		R340	NRSA63J-124X	MG RESISTOR	120kΩ,1/16W
		R341	NRSA63J-104X	MG RESISTOR	100kΩ,1/16W
		R342	NRSA63J-473X	MG RESISTOR	47kΩ,1/16W
		R343	NRSA63J-473X	MG RESISTOR	47kΩ,1/16W
		R344	NRSA63J-334X	MG RESISTOR	330kΩ,1/16W
		R345	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
		R347	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R348	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R349	NRSA63J-882X	MG RESISTOR	8.8kΩ,1/16W
		R351	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R352	NRVA63D-272X	CMF RESISTOR	2.7kΩ,1/16W
		R353	NRVA63D-272X	CMF RESISTOR	2.7kΩ,1/16W
		R354	NRVA63D-103X	CMF RESISTOR	10kΩ,1/16W
		R355	NRVA63D-562X	CMF RESISTOR	5.6kΩ,1/16W
		R356	NRVA63D-103X	CMF RESISTOR	10kΩ,1/16W
		R357	NRVA63D-562X	CMF RESISTOR	5.6kΩ,1/16W
		R358	NRSA63J-562X	MG RESISTOR	5.6kΩ,1/16W
		R359	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R361	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R363	PELN0968-601Y	NOISE FILTER	
		R372	PELN0968-601Y	NOISE FILTER	
		R373	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R374	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R375	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
		R376	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
		R377	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R378	NRSA63J-221X	MG RESISTOR	220Ω,1/16W
		R381	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
		R382	NRSA63J-334X	MG RESISTOR	330kΩ,1/16W
		R383	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R385	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
		R386	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R390	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
		R391	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
		R392	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
		R393	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
		R394	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
		R395	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R396	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R397	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R398	NRSA63J-183X	MG RESISTOR	18kΩ,1/16W
		R399	NRSA63J-151X	MG RESISTOR	150Ω,1/16W
		R402	NRSA63J-223X	MG RESISTOR	22kΩ,1/16W
		R403	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R404	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R410	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R411	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R413	NRVA63D-180X	CMF RESISTOR	18Ω,1/16W
		R414	NRVA63D-180X	CMF RESISTOR	18Ω,1/16W
		R416	NRSA63J-105X	MG RESISTOR	1MΩ,1/16W
		R417	NRSA63J-105X	MG RESISTOR	1MΩ,1/16W
		R418	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
		RA6	NRZ0040-0R0X	NETWORK RESISTOR	0Ω
		RA7	NRZ0040-0R0X	NETWORK RESISTOR	0Ω
		RA8	NRZ0040-0R0X	NETWORK RESISTOR	0Ω
		RA9	NRZ0040-0R0X	NETWORK RESISTOR	0Ω
		RA401	NRZ0040-0R0X	NETWORK RESISTOR	0Ω
		RA402	NRZ0040-0R0X	NETWORK RESISTOR	0Ω
		C1	NCF31CZ-104X	CAPACITOR	0.1μF,16V
		C2	NEAB0JM-476X	E CAPACITOR	47μF,6.3V
		C3	NCB31CK-473X	CAPACITOR	0.047μF,16V
		C4	NCF31CZ-104X	CAPACITOR	0.1μF,16V
		C6	NCF31CZ-104X	CAPACITOR	0.1μF,16V
		C7	NCF31CZ-104X	CAPACITOR	0.1μF,16V
		C8	NCF31CZ-104X	CAPACITOR	0.1μF,16V
		C9	NCF31CZ-104X	CAPACITOR	0.1μF,16V
		C10	NCB31CK-473X	CAPACITOR	0.047μF,16V
		C11	NCB31CK-473X	CAPACITOR	0.047μF,16V
		C12	NDC31HJ-200X	CAPACITOR	20pF,50V
		C13	NDC31HJ-200X	CAPACITOR	20pF,50V
		C14	NCF31CZ-104X	CAPACITOR	0.1μF,16V
		C15	NCF31CZ-104X	CAPACITOR	0.1μF,16V
		C16	NEAB0JM-476X	E CAPACITOR	47μF,6.3V
		C17	NCF31CZ-104X	CAPACITOR	0.1μF,16V
		C18	NCF31CZ-104X	CAPACITOR	0.1μF,16V
		C19	NCF31CZ-104X	CAPACITOR	0.1μF,16V
		C20	NCF31CZ-104X	CAPACITOR	0.1μF,16V

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		C21	NCF31CZ-104X	CAPACITOR	0.1µF,16V
		C22	NCF31CZ-104X	CAPACITOR	0.1µF,16V
		C23	NDC31HJ-471X	CAPACITOR	470pF,50V
		C25	NDC31HJ-471X	CAPACITOR	470pF,50V
		C26	NDC31HJ-471X	CAPACITOR	470pF,50V
		C27	NDC31HJ-471X	CAPACITOR	470pF,50V
		C29	NCF31CZ-104X	CAPACITOR	0.1µF,16V
		C31	NEAB0JM-476X	E CAPACITOR	47µF,6.3V
		C34	NCF31CZ-104X	CAPACITOR	0.1µF,16V
		C35	NCF31CZ-104X	CAPACITOR	0.1µF,16V
		C36	NCB31HK-102X	CAPACITOR	0.001µF,50V
		C37	NCB31HK-102X	CAPACITOR	0.001µF,50V
		C38	NCB31HK-102X	CAPACITOR	0.001µF,50V
		C41	NCB31HK-102X	CAPACITOR	0.001µF,50V
		C42	NCB31HK-102X	CAPACITOR	0.001µF,50V
		C43	NCB31HK-102X	CAPACITOR	0.001µF,50V
		C44	NCB31HK-102X	CAPACITOR	0.001µF,50V
		C201	NCB31CK-473X	CAPACITOR	0.047µF,16V
		C202	NCB31CK-473X	CAPACITOR	0.047µF,16V
		C203	NCB31CK-473X	CAPACITOR	0.047µF,16V
		C204	NCB31CK-473X	CAPACITOR	0.047µF,16V
		C205	NCB31CK-473X	CAPACITOR	0.047µF,16V
		C206	NCB31CK-473X	CAPACITOR	0.047µF,16V
		C208	NCB31CK-473X	CAPACITOR	0.047µF,16V
		C209	NCB31CK-473X	CAPACITOR	0.047µF,16V
		C210	NCB31CK-473X	CAPACITOR	0.047µF,16V
		C211	NCB31CK-473X	CAPACITOR	0.047µF,16V
		C212	NCB31CK-473X	CAPACITOR	0.047µF,16V
		C213	NCB31CK-473X	CAPACITOR	0.047µF,16V
		C214	NCB31CK-473X	CAPACITOR	0.047µF,16V
		C215	NCB31CK-473X	CAPACITOR	0.047µF,16V
		C216	NCB31CK-473X	CAPACITOR	0.047µF,16V
		C217	NCB31CK-473X	CAPACITOR	0.047µF,16V
		C219	NCB31CK-473X	CAPACITOR	0.047µF,16V
		C220	NCB31CK-473X	CAPACITOR	0.047µF,16V
		C221	NCB31CK-473X	CAPACITOR	0.047µF,16V
		C222	NCB31CK-473X	CAPACITOR	0.047µF,16V
		C223	NCF31CZ-104X	CAPACITOR	0.1µF,16V
		C224	NEA71CM-106X	E CAPACITOR	10µF,16V
		C225	NCB31CK-473X	CAPACITOR	0.047µF,16V
		C226	NCB31CK-473X	CAPACITOR	0.047µF,16V
		C227	NDC31HJ-101X	CAPACITOR	100pF,50V
		C228	NDC31HJ-101X	CAPACITOR	100pF,50V
		C230	NCF31CZ-104X	CAPACITOR	0.1µF,16V
		C241	NCB31CK-473X	CAPACITOR	0.047µF,16V
		C302	NEAB1EM-476X	E CAPACITOR	47µF,25V
		C303	NCB31CK-333X	CAPACITOR	0.033µF,16V
		C304	NCB31HK-103X	CAPACITOR	0.01µF,50V
		C307	NEAB1CM-476X	E CAPACITOR	47µF,16V
		C309	NCB31CK-333X	CAPACITOR	0.033µF,16V
		C310	NCF31CZ-104X	CAPACITOR	0.1µF,16V
		C311	NCF31CZ-104X	CAPACITOR	0.1µF,16V
		C322	NDC31HJ-101X	CAPACITOR	100pF,50V
		C325	NDC31HJ-101X	CAPACITOR	100pF,50V
		C330	NEA71CM-106X	E CAPACITOR	10µF,16V
		C331	NCF31CZ-104X	CAPACITOR	0.1µF,16V
		C332	NCF31CZ-104X	CAPACITOR	0.1µF,16V
		C335	NCB31HK-103X	CAPACITOR	0.01µF,50V
		C336	NCB31HK-103X	CAPACITOR	0.01µF,50V
		C342	NDC31HJ-470X	CAPACITOR	47pF,50V
		C343	NDC31HJ-470X	CAPACITOR	47pF,50V

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		C401	NCF31CZ-104X	CAPACITOR	0.1µF,16V
		C402	NEAB0JM-476X	E CAPACITOR	47µF,6.3V
		C403	NCF31CZ-104X	CAPACITOR	0.1µF,16V
		C404	NCF31CZ-104X	CAPACITOR	0.1µF,16V
		C405	NEAB0JM-476X	E CAPACITOR	47µF,6.3V
		C407	NDC31HJ-160X	CAPACITOR	16pF,50V
		C408	NDC31HJ-160X	CAPACITOR	16pF,50V
		C409	NCF31CZ-104X	CAPACITOR	0.1µF,16V
		C410	NCF31CZ-104X	CAPACITOR	0.1µF,16V
		LC203	PELN0974-601Y	NOISE FILTER	
		LC204	PELN0974-601Y	NOISE FILTER	
		LC205	PELN0974-601Y	NOISE FILTER	
		LC206	PELN0974-601Y	NOISE FILTER	
		LC207	PELN0974-601Y	NOISE FILTER	
		LC208	PELN0974-601Y	NOISE FILTER	
		LC209	PELN0974-601Y	NOISE FILTER	
		LC210	PELN0974-601Y	NOISE FILTER	
		LC211	PELN0974-601Y	NOISE FILTER	
		LC212	PELN0974-601Y	NOISE FILTER	
		LC213	PELN0926-221Z	NOISE FILTER	
		LC214	PELN0974-601Y	NOISE FILTER	
		LC215	PELN0974-601Y	NOISE FILTER	
		X1	NAX0344-001X	CRYSTAL RESONATOR	
		X401	QAX0622-001	CRYSTAL RESONATOR	
		S1	NSW0074-001X	TACT SWITCH	
		K3	PELN0974-601Y	NOISE FILTER	
		K4	PELN0974-601Y	NOISE FILTER	
		K5	PELN0974-601Y	NOISE FILTER	
		K10	PELN0974-601Y	NOISE FILTER	
		K11	PELN0974-601Y	NOISE FILTER	
		K14	PELN0345-01-Z	FERRATE BEADS	
		K17	PELN0345-01-Z	FERRATE BEADS	
		J1	NNZ0038-001X	D CONNECTOR	
		CN1	QGA1201C2-07X	CONNECTOR,(1-7)INK SW SENS(1)	
		CN2	QGA2001C1-02	CONNECTOR,(1-2)FAN M.	
		CN3	QGA1201C2-02X	CONNECTOR,(1-2)P.FEED M.	
		CN4	QGA1201C2-02X	CONNECTOR,(1-2)MODE M.	
		CN5	QGA1201C2-05X	CONNECTOR,(1-5)SENS(6)(8)	
		CN6	QGA1201F2-11X	CONNECTOR,(1-11)SENS(2)(5)	
		CN7	QGF1019C1-16X	FPC CONNECTOR,(1-7)HEAD	
		CN8	QGA2001F2-08V	CONNECTOR,(1-8)SW REG	
		CN9	QGA2001F2-04X	CONNECTOR,(1-4)SW REG(USB)	
		CN10	QGA1201C2-02X	CONNECTOR,(1-2)TRAY SW	

****

INK SWTCH BOARD ASSEMBLY <37>

PW7	YB20878A7	INK SW PWB ASSEMBLY
S2	QSW0851-001	DETECT SWITCH
S3	QSW0851-001	DETECT SWITCH
S4	QSW0851-001	DETECT SWITCH
WR1	WJK0061-002A	WIRE,CN1
WR2	WJM0105-003A	WIRE,FW601

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	

****

TRAY SWITCH BOARD ASSEMBLY <38>

		PW8	YB20878A8	TRAY SW PWB ASSEMBLY	
		S701	QSW0853-001	LEVER SWITCH	
		WR6	WJM0106-002A	WIRE,FW701	

****

SENSOR(1) BOARD ASSEMBLY <66>

		PW1	YB20878A1	SENSOR(1) PWB ASSEMBLY	
		Q101	PN207-/NCLF/VI	PHOTO TRANSISTOR	

****

SENSOR(2) BOARD ASSEMBLY <67>

		OT1	QWTA200-005	TUBE FOR WR3	
		PW2	YB20878A2	SENSOR(2) PWB ASSEMBLY	
		D201	LN57-/LF/VI	LE DIODE	
		C201	QCBB1HK-104	CAPACITOR	0.1µF,50V
		S201	QSW0854-001	PUSH SWITCH	
		WR3	WJK0062-001A	WIRE,CN201	
		WR4	QUM035-07A4A4	RIBON WIRE,FW202	
		WR5	QUM032-05A4A4	RIBON WIRE,FW203	

****

SENSOR(3) BOARD ASSEMBLY <68>

		PW3	YB20878A3	SENSOR(3) PWB ASSEMBLY	
		S301	QSW0601-002	DETECT SWITCH	
		PS301	GP1S94	IC(PHOTO SENSOR)	

****

SENSOR(4) BOARD ASSEMBLY <80>

		PW4	YB20878A4	SENSOR(4) PWB ASSEMBLY	
		Q401	PN207-/NCLF/VI	PHOTO TRANSISTOR	

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	

****

SENSOR(5) BOARD ASSEMBLY <81>

		PW5	YB20878A5	SENSOR(5) PWB ASSEMBLY	
		PS501	GP1S94	IC(PHOTO SENSOR)	

****

SENSOR(6) BOARD ASSEMBLY <82>

		PW6	YB20878A6	SENSOR(6) PWB ASSEMBLY	
		PS601	SG-107F3/CD/	IC(PHOTO SENSOR)	
		WR7	QUB361-03A2A2	WIRE,J601	

****

SENSOR(8) BOARD ASSEMBLY <94>

		PW9	YB20878A9	SENSOR(8) PWB ASSEMBLY	
		PS801	SG-107F3/CD/	IC(PHOTO SENSOR)	

SECTION 4
CHARTS AND DIAGRAMS

NOTES OF SCHEMATIC DIAGRAM

Safety precautions
The Components identified by the symbol ⚠ are critical for safety. For continued safety, replace safety critical components only with manufacturer's recommended parts.

1. Units of components on the schematic diagram

Unless otherwise specified.

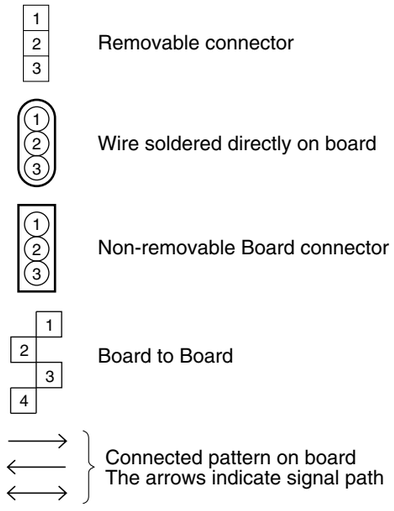
1) All resistance values are in ohm, 1/6 W, 1/8 W (refer to parts list).
   Chip resistors are 1/16 W.
   K: K (1000), M: M (1000K)
2) All capacitance values are in μF, (P: PF).
3) All inductance values are in μH, (m: mH).
4) All diodes are 1SS133, MA165 or 1N4148M (refer to parts list).

2. Indications of control voltage

AUX : Active at high

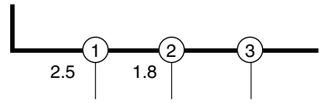
$\overline{AUX}$ or AUX(L) : Active at low

3. Interpreting Connector indications



4. Voltage measurement

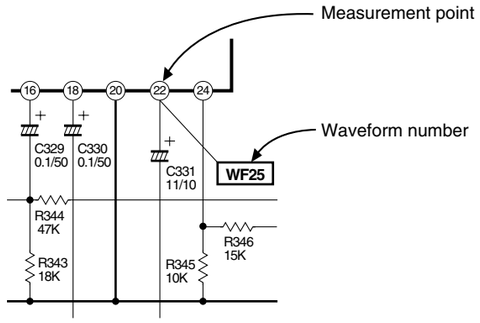
1) Video circuits
   Voltage are DC-measured (reference to ground) with a voltmeter by suppling the color bar signal during print screen mode.
   — : Unmeasurable or unnecessary to measure
2) Indication on schematic diagram
   Voltage indications on the schematic diagram are as shown below.



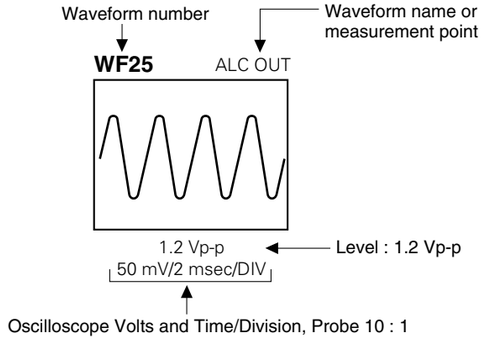
Note: If the voltages are not indicated on the schematic diagram, refer to the voltage charts.

5. Waveform measurement

1) Video circuits
   Waveforms are measured (reference to ground) with a color bar signal during print screen mode.
2) Indication on schematic diagram
   Waveform indications on the schematic diagram are as shown below.



3) Waveform indications



6. Signal path Symbols

The arrows indicate the signal path as follows.

Memory screen main signal path

Memory screen and E-E signal path

E-E main signal path

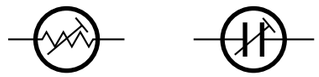
(Example)

R-Y Memory screen R-Y signal path

Y E-E Y signal path

7. Indication of the parts for adjustments

The parts for the adjustments are surrounded with the circle as shown below.



8. Indication of the parts not mounted on the circuit board

"OPEN" is indicated by the parts not mounted on the circuit board.

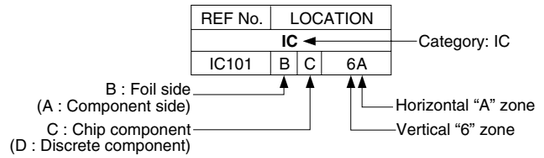
CIRCUIT BOARD NOTES

1. Foil and Component sides

1) Foil side (B side) :
   Parts on the foil side seen from foil face (pattern face) are indicated.
2) Component side (A side) :
   Parts on the component side seen from component face (parts face) indicated.

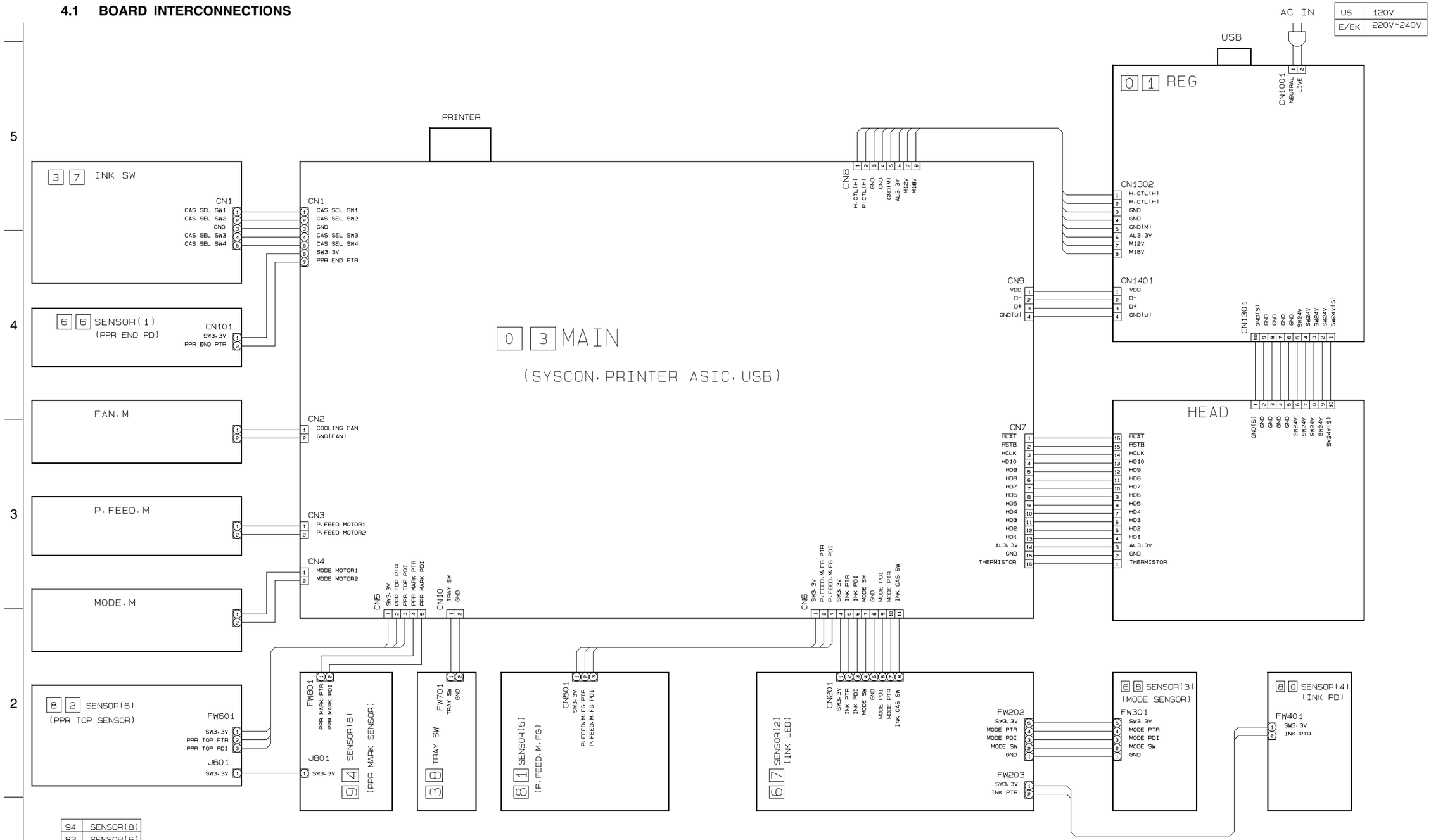
2. Parts location guides

Parts location are indicated by guide scale on the circuit board.



Note:
For general information in service manual, please refer to the Service Manual of GENERAL INFORMATION Edition 4 No. 82054D (January 1994).

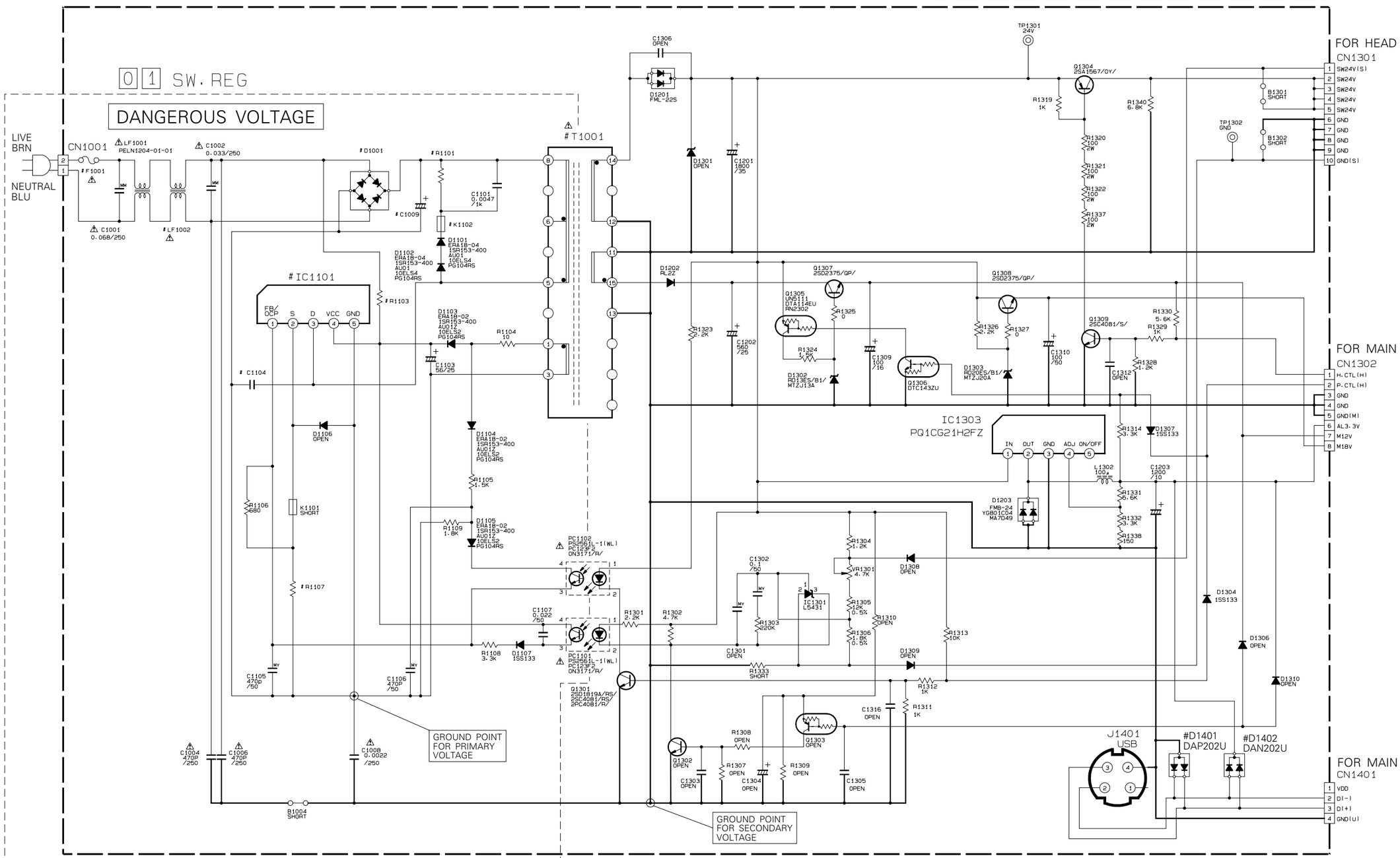
4.1 BOARD INTERCONNECTIONS


AC IN
US 120V
E/EK 220V~240V
USB
PRINTER
01 REG
CN1001 NEUTRAL LIVE
CN1302 H.CTL(H) P.CTL(H) GND GND GND(M) AL3.3V M12V M18V
CN1401 VDD D- D+ GND(U)
CN1301 GND(S) GND GND GND GND SW24V SW24V SW24V SW24V SW24V(S)
HEAD
CN7 HLAT HSTB HCLK HD10 HD9 HD8 HD7 HD6 HD5 HD4 HD3 HD2 HD1 AL3.3V GND THERMISTOR
03 MAIN
(SYSCON, PRINTER ASIC, USB)
CN8 H.CTL(H) P.CTL(H) GND GND GND(M) AL3.3V M12V M18V
CN9 VDD D- D+ GND(U)
37 INK SW
CN1 CAS SEL SW1 CAS SEL SW2 GND CAS SEL SW3 CAS SEL SW4 SW3.3V PPR END PTR
66 SENSOR(1) (PPR END PD)
CN101 SW3.3V PPR END PTR
FAN.M
CN2 COOLING FAN GND(FAN)
P.FEED.M
CN3 P.FEED MOTOR1 P.FEED MOTOR2
CN4 MODE MOTOR1 MODE MOTOR2
MODE.M
CN5 SW3.3V PPR TOP PTR PPR TOP PDI PPR MARK PTR PPR MARK PDI
CN10 TRAY SW GND
CN6 SW3.3V P.FEED.M.FG PTR P.FEED.M.FG PDI SW3.3V INK PTR INK PDI MODE SW GND MODE PDI MODE PTR INK CAS SW
82 SENSOR(6) (PPR TOP SENSOR)
FW601 SW3.3V PPR TOP PTR PPR TOP PDI
J601 SW3.3V
FW801 PPR MARK PTR PPR MARK PDI
J801 SW3.3V
94 SENSOR(8) (PPR MARK SENSOR)
38 TRAY SW
FW701 TRAY SW GND
81 SENSOR(5) (P.FEED.M.FG)
CN501 SW3.3V P.FEED.M.FG PTR P.FEED.M.FG PDI
67 SENSOR(2) (INK LED)
CN201 SW3.3V INK PTR INK PDI MODE SW GND MODE PDI MODE PTR INK CAS SW
FW202 SW3.3V MODE PTR MODE PDI MODE SW GND
FW203 SW3.3V INK PTR
68 SENSOR(3) (MODE SENSOR)
FW301 SW3.3V MODE PTR MODE PDI MODE SW GND
80 SENSOR(4) (INK PD)
FW401 SW3.3V INK PTR

94	SENSOR(8)
82	SENSOR(6)
81	SENSOR(5)
80	SENSOR(4)
68	SENSOR(3)
67	SENSOR(2)
66	SENSOR(1)
38	TRY SW
37	INK SW
03	MAIN
01	REG
NO	NAME

4.2 SWITCHING REGULATOR SCHEMATIC DIAGRAM

NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.

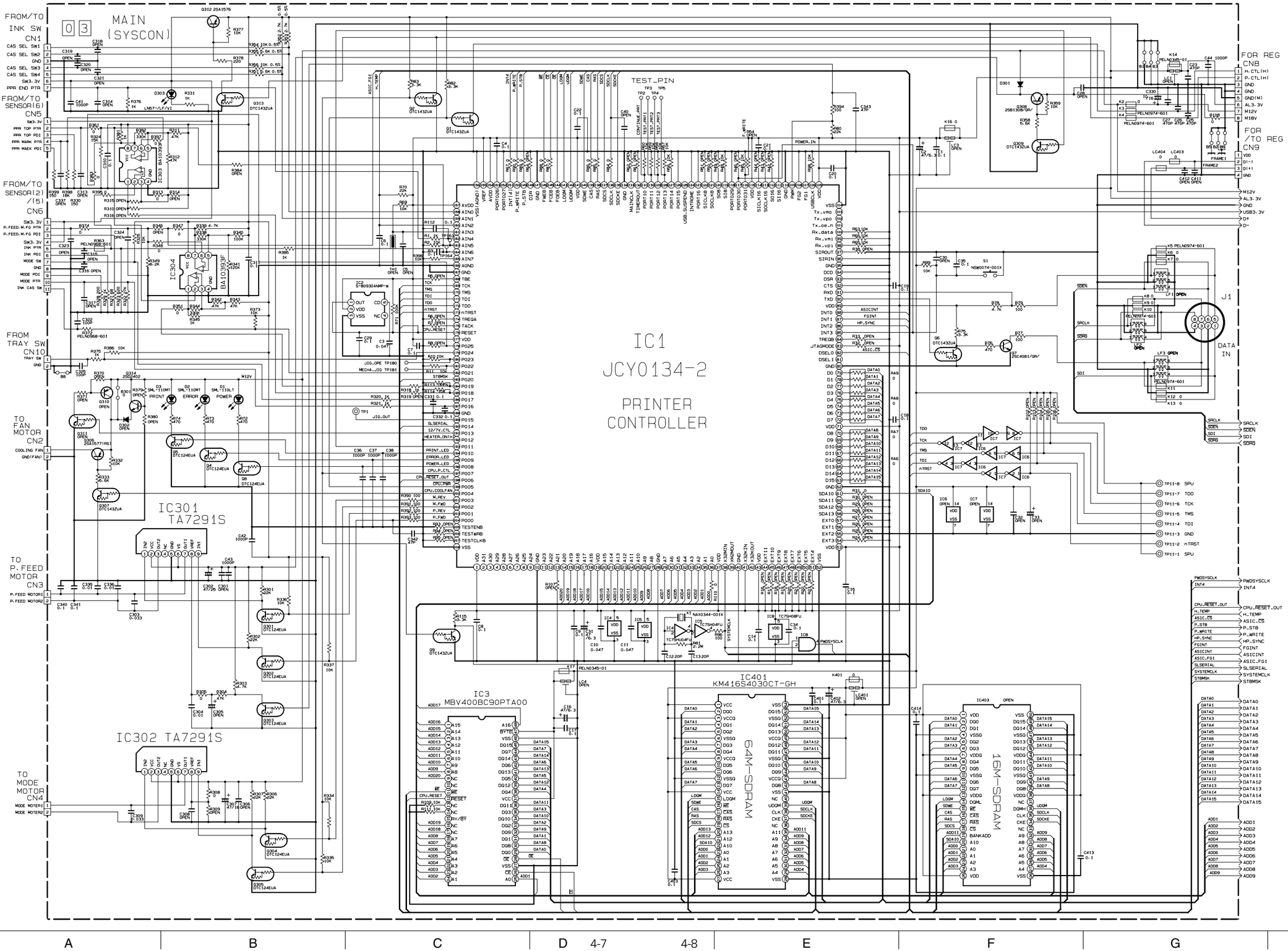


NOTE : Comparison chart of models & marks(#).

	REF.NO	F1001	LF1002	C1009	D1001	IC1101	T1001	R1101	R1103	R1107	C1104	K1102	D1401 D1402
MODEL	GV-SP2U SERIES	3.15A /125	QQR1101-001	330 /200	RBV-404	STR-F6624	QQS0055-001	68k 2W	68k 2W	0.1 1W	1500P /1k	QQR0678-001	NOT USED
	GV-SP2E SERIES	2A /250	QQR1102-001	150 /400	RBV-406	STR-F6676	QQS0066-001	150k 2W	150k /2W	0.22 1W	680P /1k	SHORT	USED

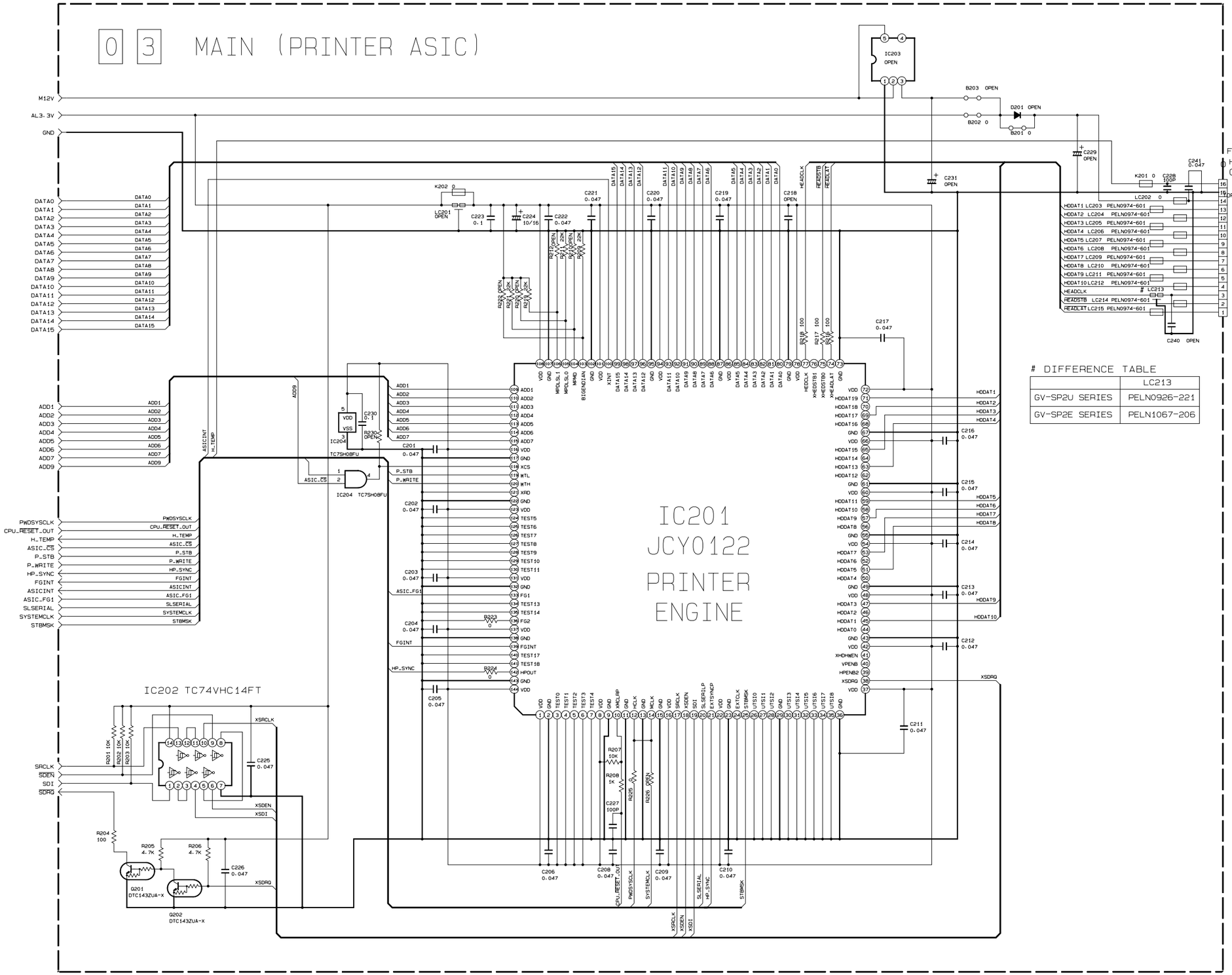
4.3 SYSTEM CONTROL SCHEMATIC DIAGRAM

NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.



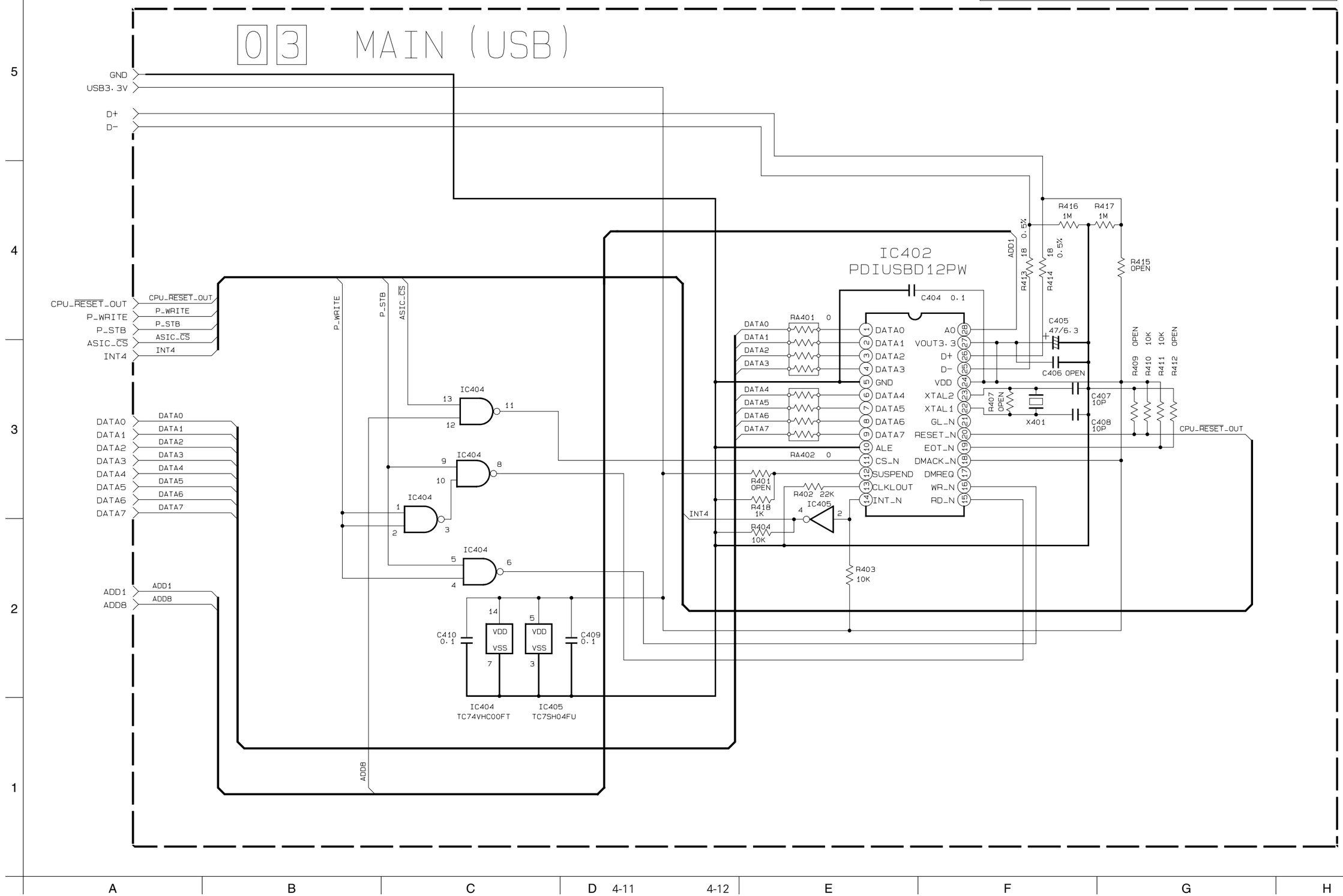
4.4 PRINTER SCHEMATIC DIAGRAM

NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.



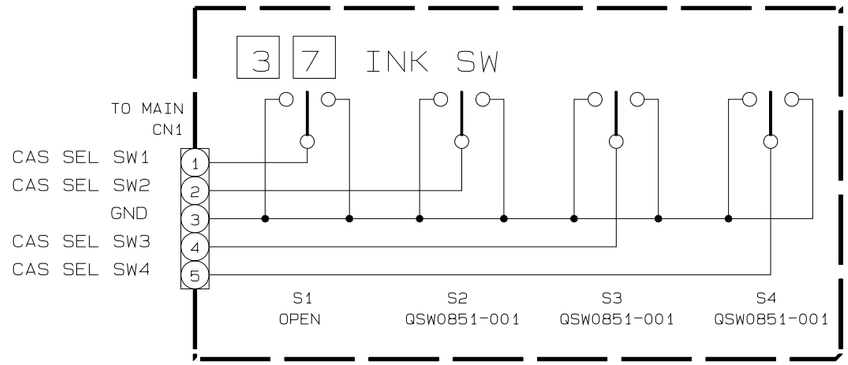
4.5 USB SCHEMATIC DIAGRAM

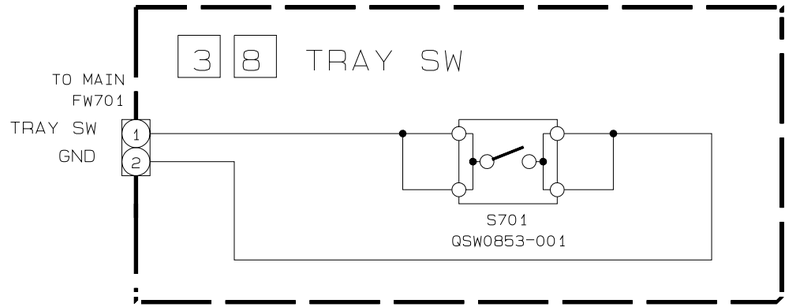
NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.

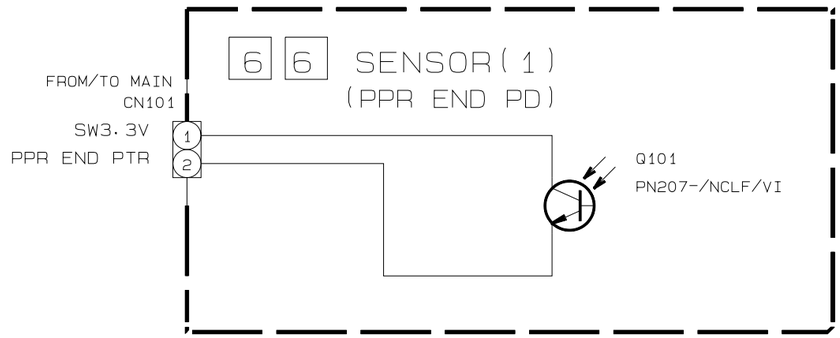


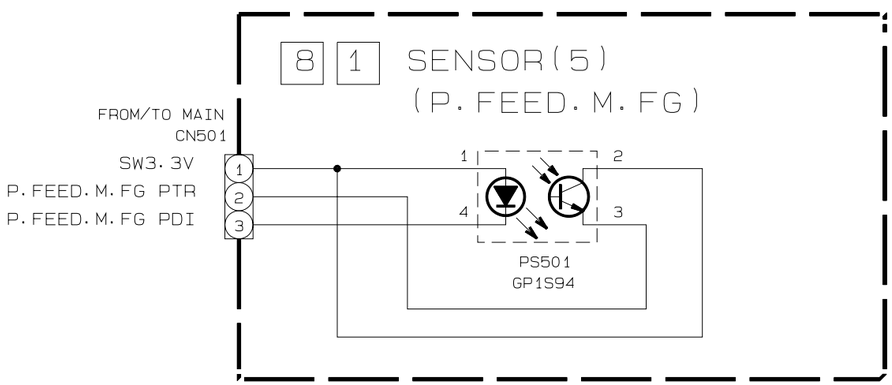
4.6 INK SWITCH, TRAY SWITCH AND SENSOR (1) - (6), (8) SCHEMATIC DIAGRAMS

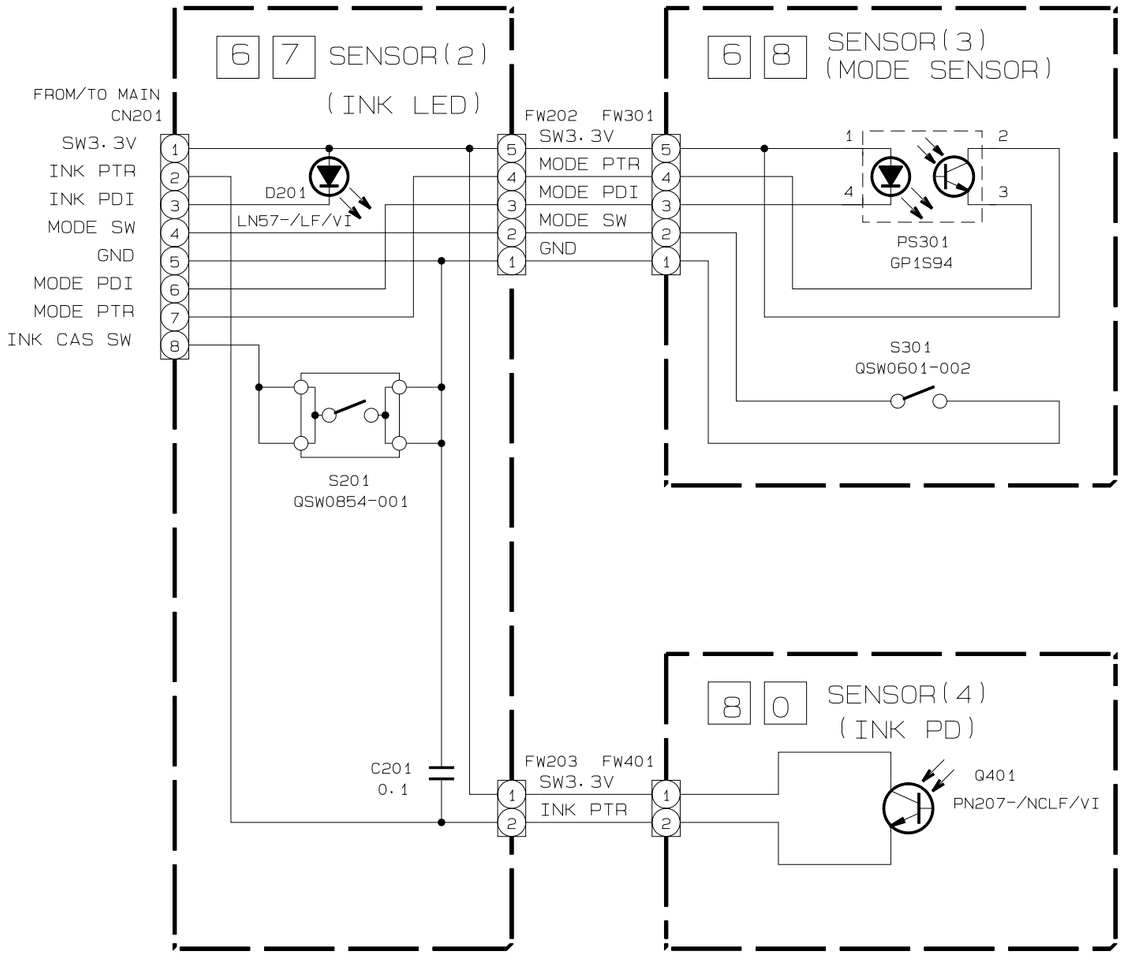
NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.

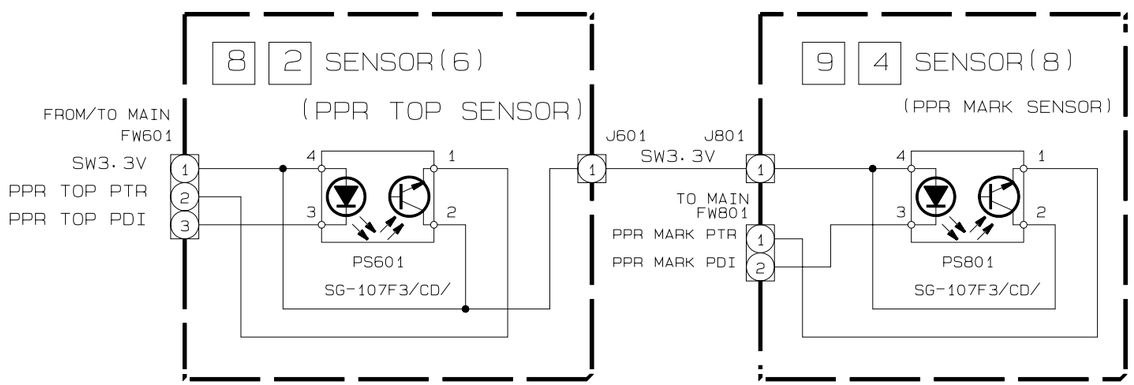






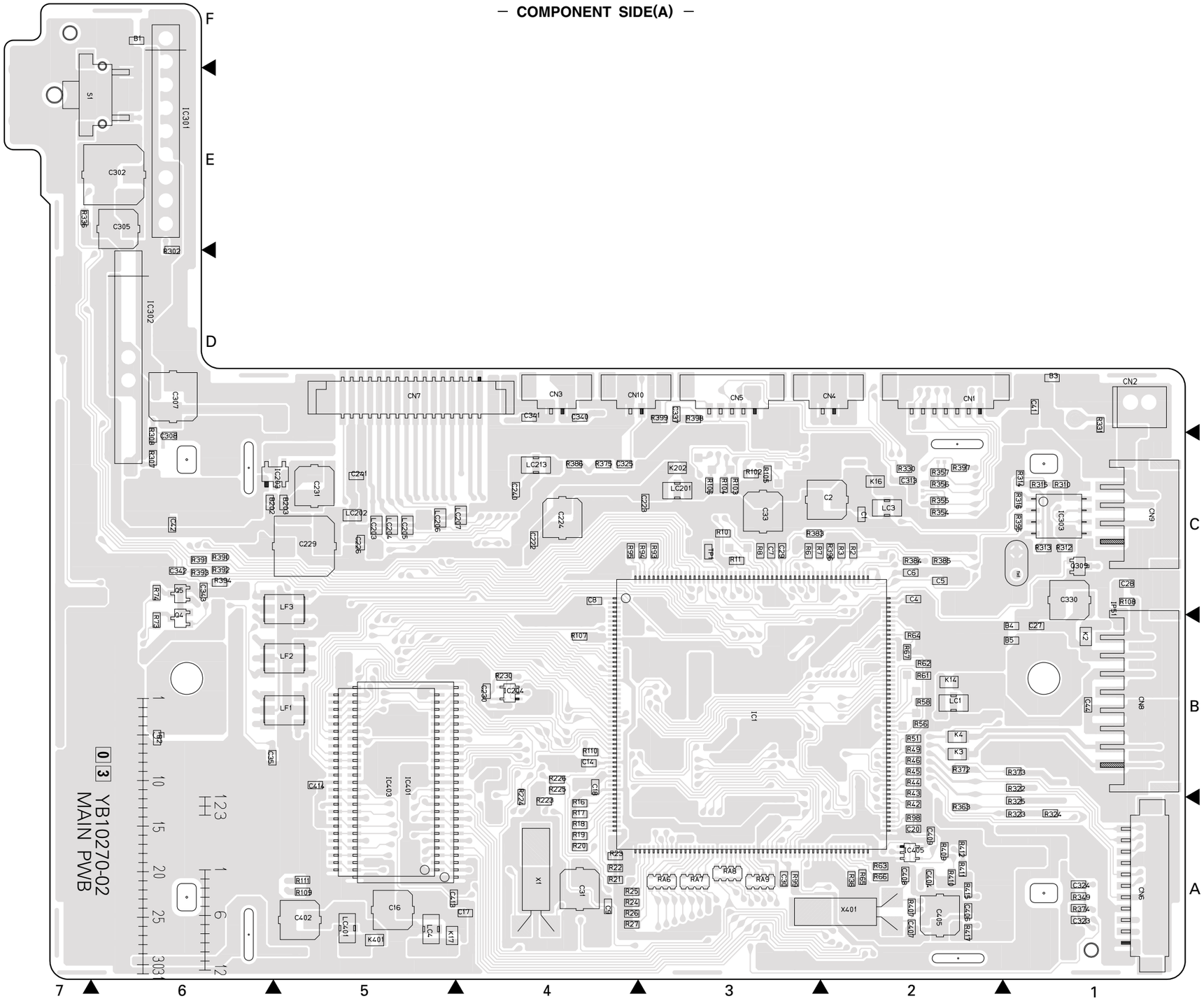






4.7 MAIN CIRCUIT BOARD

– COMPONENT SIDE(A) –


F
E
D
C
B
A
7
6
5
4
3
2
1
B1
S1
IC301
C302
C305
R302
IC302
C307
R308
C308
R307
CN7
CN3
CN10
CN5
CN4
CN1
B3
CN2
C341
C340
R399
C337
R398
LC213
R388
R375
C325
K202
LC201
R102
R105
R104
R103
C240
C224
C2
K16
LC3
C33
R330
C313
R357
R397
R356
R355
R354
R314
R316
R318
R315
R310
IC303
R313
R312
CN9
C309
C28
R109
C330
C27
B4
B5
C2
R64
R63
R62
R61
K12
LC1
R58
R56
R51
R49
R46
R45
R44
R43
R42
K4
K3
R372
R373
R322
R325
R323
R324
R363
C20
C405
C404
R419
C407
X401
C324
R349
R374
C323
CN6
CN8
C42
C231
C229
C224
C226
C227
C228
C232
C230
C234
C235
C241
C242
C243
C244
C245
C246
C247
LC202
LC203
LC204
LC205
LC206
LC207
LC208
LC209
LC210
R390
R391
R392
R393
R394
C342
C343
Q5
Q4
R74
R73
LF3
LF2
LF1
R92
R111
R109
C402
LC401
K401
C16
C17
C418
LC4
K17
IC401
IC403
X1
C31
C9
C8
C6
C5
C4
R107
R230
C234
R110
C14
R226
R225
R224
R223
C18
R16
R17
R18
R19
R20
R23
R22
R21
R25
R24
R26
R27
RA5
RA7
RA8
RA9
R69
R68
R66
R38
C40B
C40D
C40C
C40A
R40B
R40A
R41B
R41A
R40D
R40C
R41D
R41C
R41
R40
R39
R37
R36
R35
R34
R33
R32
R31
R30
R29
R28
R1
R2
R3
R4
R5
R6
R7
R8
R9
R10
R11
TP1
R383
R384
R385
C1
C3
C7
C10
C11
C12
C13
C15
C19
C21
C22
C23
C25
C26
C29
C30
C31
C32
C33
C34
C35
C36
C37
C38
C39
C40
C41
C43
C44
C45
C46
C47
C48
C49
C50
C51
C52
C53
C54
C55
C56
C57
C58
C59
C60
C61
C62
C63
C64
C65
C66
C67
C68
C69
C70
C71
C72
C73
C74
C75
C76
C77
C78
C79
C80
C81
C82

COMPONENT PARTS LOCATION GUIDE <MAIN> COMPONENT SIDE (A)

REF.NO.	LOCATION
CAPACITOR	
C1	A C 2C
C2	A C 2C
C4	A C 2C
C5	A C 2C
C6	A C 2C
C7	A C 3C
C8	A C 4B
C9	A C 4A
C14	A C 4B
C16	A C 5A
C17	A C 5A
C18	A C 4B
C20	A C 2A
C27	A C 1B
C28	A C 1C
C29	A C 3C
C30	A C 3A
C31	A C 4A
C33	A C 3C
C35	A C 6B
C41	A C 1D
C42	A C 6C
C44	A C 1B
C222	A C 4C
C223	A C 3C
C224	A C 4C
C226	A C 5C
C229	A C 5C
C230	A C 4B
C231	A C 5C
C240	A C 4C
C241	A C 5C
C302	A C 6E
C305	A C 6E
C307	A C 6D
C308	A C 6C
C313	A C 2C
C323	A C 1A
C324	A C 1A
C325	A C 4C
C330	A C 1C
C337	A C 3D
C340	A C 4D
C341	A C 4D
C342	A C 6C
C343	A C 6C
C402	A C 5A
C404	A C 2A
C405	A C 2A
C406	A C 2A
C407	A C 2A
C408	A C 2A
C409	A C 2A
C414	A C 5B

REF.NO.	LOCATION
CONNECTOR	
CN1	A C 2D
CN2	A D 1D
CN3	A C 4D
CN4	A C 2D
CN5	A C 3D
CN6	A C 1A
CN7	A C 4D
CN8	A C 1B
CN9	A C 1C
CN10	A C 4D
IC	
IC1	A C 3B
IC203	A C 6C
IC204	A C 4B
IC301	A D 6F
IC302	A D 6D
IC303	A C 1C
IC401	A C 5B
IC403	A C 5B
IC405	A C 2A
TRANSISTOR	
Q4	A C 6B
Q5	A C 6C
Q309	A C 1C
RESISTOR	
R2	A C 2C
R3	A C 2C
R6	A C 3C
R7	A C 3C
R8	A C 3C
R10	A C 3C
R11	A C 3C
R16	A C 4A
R17	A C 4A
R18	A C 4A
R19	A C 4A
R20	A C 4A
R21	A C 4A
R22	A C 4A
R23	A C 4A
R24	A C 4A
R25	A C 4A
R26	A C 4A
R27	A C 4A
R38	A C 2A
R42	A C 2A
R43	A C 2B
R44	A C 2B
R45	A C 2B
R46	A C 2B
R49	A C 2B
R51	A C 2B
R56	A C 2B

REF.NO.	LOCATION
R58	A C 2B
R61	A C 2B
R62	A C 2B
R63	A C 2A
R64	A C 2B
R65	A C 2A
R66	A C 2A
R67	A C 2B
R73	A C 6B
R74	A C 6C
R93	A C 3C
R94	A C 4C
R95	A C 4C
R98	A C 2A
R99	A C 3A
R102	A C 3C
R103	A C 3C
R104	A C 3C
R105	A C 3C
R106	A C 3C
R107	A C 4B
R108	A C 1C
R109	A C 5A
R110	A C 4B
R111	A C 5A
R223	A C 4A
R224	A C 4B
R225	A C 4B
R226	A C 4B
R230	A C 4B
R302	A C 6E
R307	A C 6C
R308	A C 6C
R310	A C 1C
R312	A C 1C
R313	A C 1C
R314	A C 1C
R315	A C 1C
R316	A C 1C
R322	A C 1B
R323	A C 1A
R324	A C 1A
R325	A C 1A
R330	A C 2C
R331	A C 1D
R336	A C 7E
R349	A C 1A
R354	A C 2C
R355	A C 2C
R356	A C 2C
R357	A C 2C
R363	A C 2A
R372	A C 2B
R373	A C 1B
R374	A C 1A

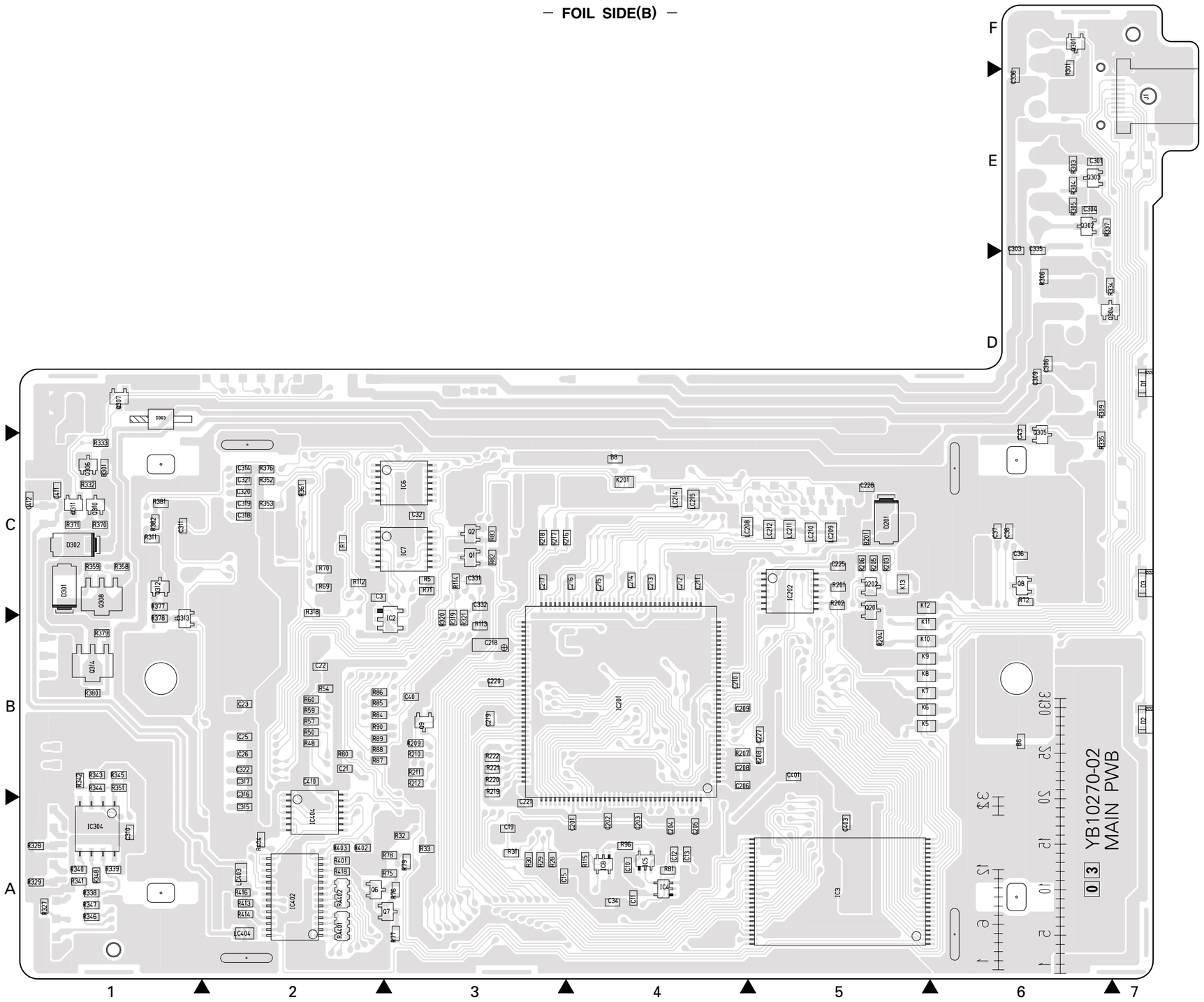
REF.NO.	LOCATION
R375	A C 4C
R383	A C 3C
R384	A C 2C
R385	A C 2C
R386	A C 4C
R390	A C 6C
R391	A C 6C
R392	A C 6C
R393	A C 6C
R394	A C 6C
R395	A C 1C
R396	A C 2C
R397	A C 2C
R398	A C 3D
R399	A C 3D
R407	A C 2A
R409	A C 2A
R410	A C 2A
R411	A C 2A
R412	A C 2A
R415	A C 2A
R417	A C 2A
RA6	A C 3A
RA7	A C 3A
RA8	A C 3A
RA9	A C 3A
TEST POINT	
TP1	A C 3C
TP2	A C 2B
TP3	A C 2B
TP4	A C 2B
TP5	A C 2B
TP11-1	A C 3C
TP11-2	A C 3C
TP11-3	A C 3C
TP11-4	A C 3C
TP11-5	A C 3C
TP11-6	A C 3C
TP11-7	A C 3C
TP163	A C 2C
TP164	A C 2C
TP180	A C 3C
TP181	A C 3C
OTHER	
K2	A C 1B
K3	A C 2B
K4	A C 2B
K14	A C 2B
K16	A C 2C
K17	A C 5A
K202	A C 3C
K401	A C 5A
LC1	A C 2B
LC3	A C 2C

REF.NO.	LOCATION
LC4	A C 5A
LC201	A C 3C
LC202	A C 5C
LC203	A C 5C
LC204	A C 5C
LC205	A C 5C
LC206	A C 5C
LC207	A C 4C
LC213	A C 4C
LC401	A C 5A
LF1	A C 5B
LF2	A C 5B
LF3	A C 5C
S1	A C 6E
TH1	A D 1C
TL-S1	A C 2A
TL-S2	A C 2B
TL-S3	A C 2C
TL-S4	A C 4C
TL-S5	A C 6C
TL-S6	A C 6C
TL-S7	A C 6B
TL-S8	A C 6A
TL-S9	A C 4C
TM1	A C 7A
X1	A C 4A
X401	A C 2A

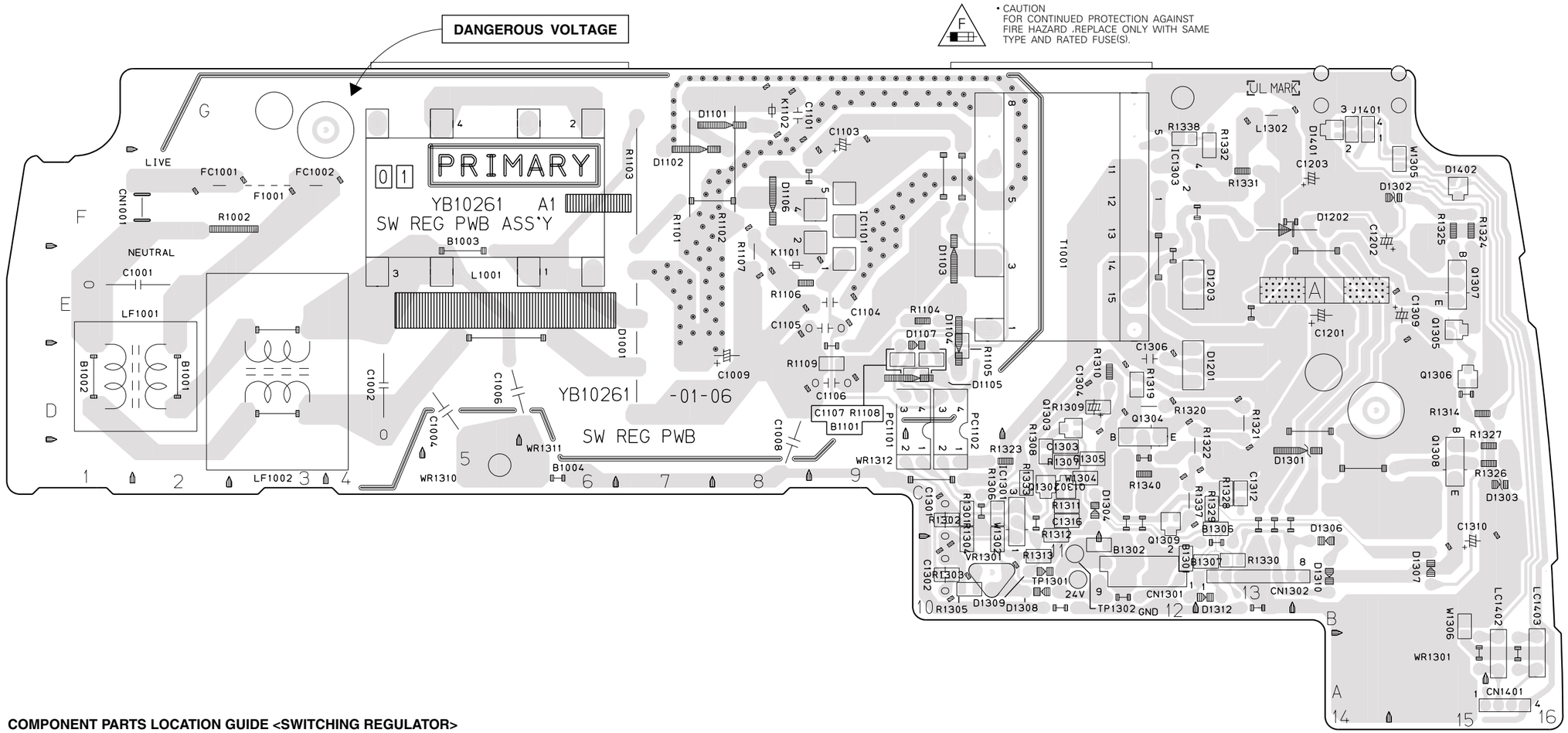
COMPONENT PARTS LOCATION GUIDE <MAIN> FOIL SIDE (B)

REF.NO.	LOCATION
CAPACITOR	
C3	B C 2C
C10	B C 4A
C11	B C 4A
C12	B C 4A
C13	B C 4A
C15	B C 3A
C19	B C 3A
C21	B C 2B
C22	B C 2B
C23	B C 2B
C25	B C 2B
C26	B C 2B
C32	B C 3C
C34	B C 4A
C36	B C 6C
C37	B C 6C
C38	B C 6C
C40	B C 3B
C43	B C 6D
C201	B C 4A
C202	B C 4A
C203	B C 4A
C204	B C 4A
C205	B C 4A
C206	B C 4B
C208	B C 4B
C209	B C 4B
C210	B C 4B
C211	B C 4C
C212	B C 4C
C213	B C 4C
C214	B C 4C
C215	B C 4C
C216	B C 4C
C217	B C 3C
C218	B C 3B
C219	B C 3B
C220	B C 3B
C221	B C 3A
C225	B C 5C
C227	B C 5B
C228	B C 5C
C301	B C 6E
C303	B C 6A
C304	B C 6E
C306	B C 6D
C309	B C 6D
C310	B C 1A
C311	B C 1C
C314	B C 2C
C315	B C 2A
C316	B C 2B
C317	B C 2B
C318	B C 2C
C319	B C 2C
C320	B C 2C
C321	B C 2C
C322	B C 2B
C331	B C 3C
C332	B C 3C
C335	B C 6E
C336	B C 6E
C401	B C 5B
C403	B C 5A
C410	B C 2B
C411	B C 1C
C412	B C 1C
DIODE	
D1	B C 7D
D2	B C 7B
D3	B C 7C
D201	B C 5C
D301	B C 1C
D302	B C 1C
D303	B D 1D
IC	
IC2	B C 3C
IC3	B C 5A
IC4	B C 4A
IC5	B C 4A
IC6	B C 3C
IC7	B C 3C
IC8	B C 4A
IC201	B C 4B
IC202	B C 5C
IC304	B C 1A
IC402	B C 2A
IC404	B C 2B
JACK	
J1	B C 7E
TRANSISTOR	
Q1	B C 3C
Q2	B C 3C
Q6	B C 2A
Q7	B C 3A
Q8	B C 6C
Q9	B C 3B
Q201	B C 5C
Q202	B C 5C
Q301	B C 6F
Q302	B C 6E
Q303	B C 6E
Q304	B C 6D
Q305	B C 6D
Q306	B C 1C
Q307	B C 1D
Q308	B C 1C
Q310	B C 1C
Q311	B C 1C
Q312	B C 1C
Q313	B C 1C
Q314	B C 1B
RESISTOR	
R1	B C 2C
R5	B C 3C
R28	B C 3A
R29	B C 3A
R30	B C 3A
R31	B C 3A
R32	B C 3A
R33	B C 3A
R48	B C 2B
R50	B C 2B
R54	B C 2B
R57	B C 2B
R59	B C 2B
R60	B C 2B
R69	B C 2C
R70	B C 2C
R71	B C 3C
R72	B C 6C
R75	B C 3A
R76	B C 3A
R77	B C 3A
R78	B C 3A
R79	B C 3A
R80	B C 2B
R81	B C 4A
R82	B C 3C
R83	B C 3C
R84	B C 2B
R85	B C 2B
R86	B C 2B
R87	B C 2B
R88	B C 2B
R89	B C 2B
R90	B C 2B
R96	B C 4A
R112	B C 2C
R113	B C 3B
R114	B C 3C
R115	B C 4A
R201	B C 5C
R202	B C 5C
R203	B C 5C
R204	B C 5B
R205	B C 5C
R206	B C 5C
R207	B C 4B
R208	B C 5B
R209	B C 3B
R210	B C 3B
R211	B C 3B
R212	B C 3B
R216	B C 3C
R217	B C 3C
R218	B C 3C
R219	B C 3B
R220	B C 3B
R221	B C 3B
R222	B C 3B
R301	B C 6F
R303	B C 6E
R304	B C 6E
R305	B C 6E
R306	B C 6D
R309	B C 6D
R311	B C 1C
R318	B C 2C
R319	B C 3C
R320	B C 3C
R321	B C 3C
R327	B C 1A
R328	B C 1A
R329	B C 1A
R332	B C 1C
R333	B C 1C
R334	B C 6D
R335	B C 6C
R337	B C 6E
R338	B C 1A
R339	B C 1A
R340	B C 1A
R341	B C 1A
R342	B C 1B
R343	B C 1B
R344	B C 1B
R345	B C 1B
R346	B C 1A
R347	B C 1A
R348	B C 1A
R351	B C 1B
R352	B C 2C
R353	B C 2C
R358	B C 1C
R359	B C 1C
R361	B C 2C
R370	B C 1C
R371	B C 1C
R376	B C 2C
R377	B C 1C
R378	B C 1B
R379	B C 1B
R380	B C 1B
R381	B C 1C
R382	B C 1C
R401	B C 2A
R402	B C 2A
R403	B C 2A
R404	B C 2A
R413	B C 2A
R414	B C 2A
R416	B C 2A
R418	B C 2A
RA401	B C 2A
RA402	B C 2A
OTHER	
K5	B C 5B
K6	B C 5B
K7	B C 5B
K8	B C 5B
K9	B C 5B
K10	B C 5B
K11	B C 5B
K12	B C 5C
K13	B C 5C
K201	B C 4C
LC208	B C 4C
LC209	B C 5C
LC210	B C 5C
LC211	B C 5C
LC212	B C 5C
LC214	B C 4C
LC215	B C 4C
LC403	B C 2A
LC404	B C 2A
TP11-8	B C 3C

– FOIL SIDE(B) –



4.8 SWITCHING REGULATOR CIRCUIT BOARD

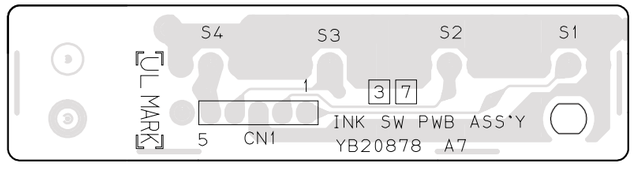


COMPONENT PARTS LOCATION GUIDE <SWITCHING REGULATOR>

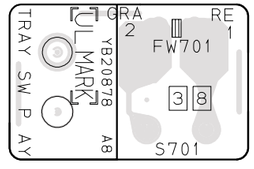
REF.NO.	LOCATION		
CAPACITOR			
C1001	A	D	2E
C1002	A	D	4D
C1004	A	D	5D
C1006	A	D	5D
C1008	A	D	8D
C1009	A	D	8D
C1101	A	D	9G
C1103	A	D	9G
C1104	A	D	9E
C1105	A	D	9E
C1106	A	D	9D
C1107	B	C	10D
C1201	A	D	14E
C1202	A	D	15E
C1203	A	D	14F
C1301	A	D	10C
C1302	A	D	10B
C1303	B	C	11C
C1304	A	D	12D
C1305	B	C	12C
C1306	A	D	12D
C1309	A	D	15E
C1310	A	D	16B
C1312	B	C	13C
C1316	B	C	11C
CONNECTOR			
CN1001	A	D	2F
CN1301	A	D	12B
CN1302	A	D	13B
CN1401	A	D	16A
DIODE			
D1001	A	D	7E
D1101	A	D	8G
D1102	A	D	7G
D1103	A	D	10E
D1104	A	D	10E
D1105	A	D	10D
D1106	A	D	8F
D1107	A	D	10D
D1201	A	D	13D
D1202	A	D	13F
D1203	A	D	13E
D1301	A	D	14C
D1302	A	D	15F
D1303	A	D	16C
D1304	A	D	12C
D1306	A	D	14B
D1307	A	D	15B
D1308	A	D	11B
D1309	A	D	11B
D1310	A	D	14B
D1312	A	D	13B
IC			
IC1101	A	D	9E
IC1301	A	D	11B
IC1303	A	D	12F
JACK			
J1401	A	D	15G
COIL			
L1001	A	D	6E
L1302	A	D	13G
TRANSISTOR			
Q1301	B	C	11C
Q1302	B	C	11C
Q1303	B	C	11D
Q1304	A	D	12D
Q1305	B	C	16E
Q1306	B	C	15D
Q1307	A	D	15E
Q1308	A	D	15C
Q1309	B	C	12C
RESISTOR			
R1002	A	D	3F
R1101	A	D	8F
R1102	A	D	8F
R1103	A	D	7G
R1104	A	D	10E
R1105	B	C	10D
R1106	A	D	9E
R1107	A	D	8E
R1108	B	C	10D
R1109	B	C	9D
R1301	B	C	10C
R1302	B	C	10C
R1303	B	C	10B
R1304	B	C	10B
R1305	B	C	10B
R1306	B	C	11C
R1307	B	C	11C
R1308	B	C	11C
R1309	B	C	12D
R1310	A	D	12D
R1311	B	C	11C
R1312	B	C	11C
R1313	B	C	11B
R1314	A	D	16D
R1319	B	C	12D
R1320	A	D	12D
R1321	A	D	13D
R1322	A	D	13C
R1323	A	D	11C
R1324	A	D	16E
R1325	A	D	15E
R1326	A	D	16C
R1327	A	D	16C
R1328	B	C	13C
R1329	B	C	13C
R1330	B	C	13B
R1331	A	D	13F
R1332	B	C	13G
R1333	B	C	11C
R1337	A	D	13C
R1338	B	C	13G
R1340	A	D	12C
VR1301	A	D	11B
OTHER			
F1001	A	D	3F
K1101	A	D	9E
K1102	A	D	8G
LC1402	A	D	16A
LC1403	A	D	16A
LF1001	A	D	2D
LF1002	A	D	3E
PC1101	A	D	10C
PC1102	A	D	10C
T1001	A	D	11E
TP1301	A	D	11B
TP1302	A	D	11B
WR1301	A	D	15A
WR1310	A	D	5C
WR1311	A	D	6C
WR1312	A	D	9C

4.9 INK SWITCH, TRAY SWITCH AND SENSOR (1) - (6), (8) CIRCUIT BOARDS

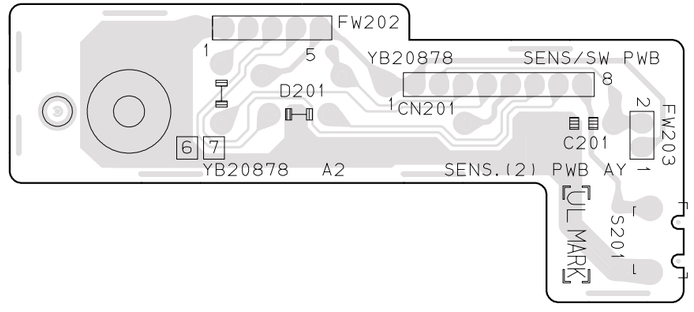
– INK SWITCH –



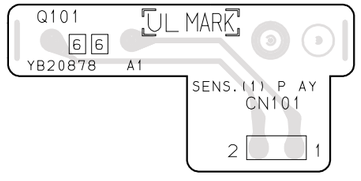
– TRAY SWITCH –



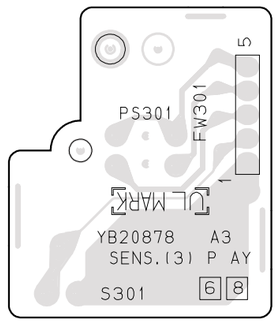
– SENSOR (2) –



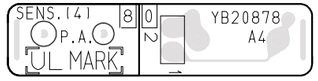
– SENSOR (1) –



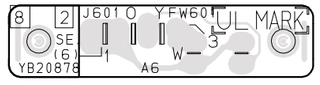
– SENSOR (3) –



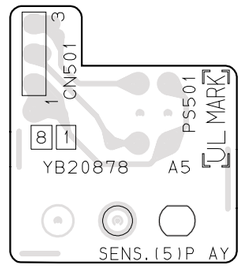
– SENSOR (4) –



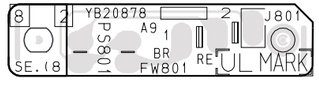
– SENSOR (6) –



– SENSOR (5) –



– SENSOR (8) –



4.10 BLOCK DIAGRAM